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# BULLETIN

OF THE

# NUTTALL ORNITHOLOGICAL CLUB:

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VOLUME I.

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Associate Editors,

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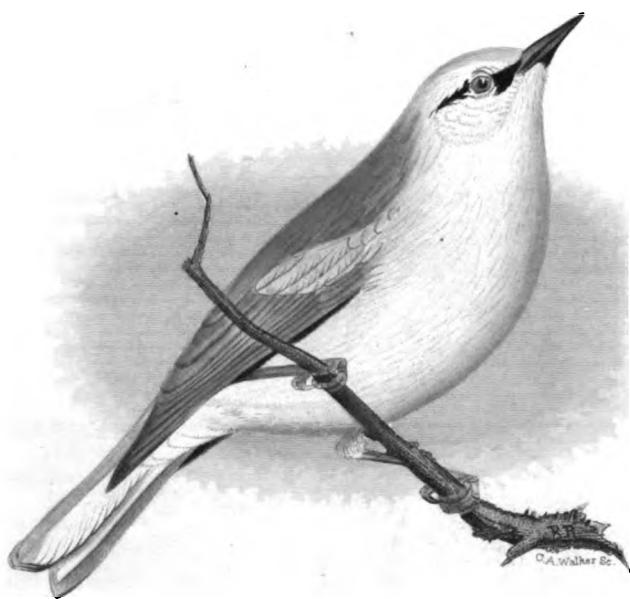
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HELMINTOPHAGA LEUCOBRONCHIALIS, BREWSTER

ADULT MALE

TABLE I.—*THE LITERATURE*

of the *Acacia* genus in the Americas

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No. 1.

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DESCRIPTION OF A NEW SPECIES OF HELMINTHOPHAGA.

BY WM. BREWSTER.

HELMINTHOPHAGA LEUCOBRONCHIALIS. PL. 1\*

Adult male: summer plumage. Crown, bright yellow, slightly tinged with olive on the occiput. Greater and middle wing coverts, yellow, not so bright as the crown. Superciliary line, cheeks, throat and entire under parts; silky-white, with a slight tinge of pale yellow on the breast. Dorsal surface,—exclusive of nape which is clear ashy—washed with yellow, as are also the outer margins of the secondaries. A narrow line of clear black passes from the base of the upper mandible, through and to a short distance behind the eye, interrupted however by the lower eyelid, which is distinctly white. No trace of black on the cheeks or throat, even upon raising the feathers. Bill black. Feet, dark brown. Dimensions—length, 5.19; extent, 7.88; wing, 2.45; tarsus, .71; tail, 1.86; culmen, .53.

It will be seen from the above description that this bird resembles most closely the Golden-winged Warbler, (*Helminthophaga chrysoptera*.)

The entire absence of black or ashy on the cheeks and throat, the peculiar character of the superciliary line, and the white lower eyelid, present however differences not to be reconciled with any known seasonal or accidental variation of that species. The restricted line of black through the eye gives the head a remarkable similarity to that of *Helminthophaga pinus*, but the resemblance goes no farther.

The specimen above described was shot by the writer in Newtonville, Mass., May 18, 1870. It was in full song when taken and was flitting about in a thicket of birches near a swampy piece of oak and maple woods. As nearly as can be remembered it did not differ much in either voice or actions

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\* The original of our plate was drawn and colored by Robert Ridgeway, Esq., of the Smithsonian Institution, and presented by him to Mr. Brewster.

from *H. chrysoptera*. The first notice of this specimen appeared in the "American Sportsman," vol. 5, p. 33. To speculate on the probable home or range of a bird so little known would be at the present time idle. Whether it must be placed in the same category with the unique *Euspiza Townsendi*, *Regulus Cuvieri*, etc., or like *Dendraeca Kirklandi*, will turn up occasionally in the future at different points, or still again as in the case of *Centronyx Bairdii*, will be found in large numbers, time alone can decide. Every fixed species of bird is probably common somewhere. There is always some well stocked reservoir however restricted in area, from which the choicest rarities emanate, but to locate this avian well-spring is not seldom an undertaking of difficulty.

As previously remarked the differences in coloration in the present bird from any of its allies are so great, and of such a nature, as to render any theory of accidental variation exceedingly unlikely, while hybrids—at least among the smaller species of undomesticated birds—are of such shadowy and problematical existence that their probable bearing upon the present case is hardly worthy of consideration.

It is not a little remarkable that another species\* in the same genus as this, and one too apparently quite as strongly characterized, should have been brought to light at so nearly the same time.

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THE COMMON BUZZARD HAWK (*BUTEO VULGARIS*) OF  
EUROPE IN NORTH AMERICA.

BY C. J. MAYNARD.

Late in the autumn of 1873 I received a box of bird skins from Mr. J. D. Allen, of Paw Paw, Mich. They consisted mainly of Hawks, among which was a specimen that instantly attracted my attention, for it was quite peculiar in its markings. The skin was evidently that of a *Buteo*, but I could not make it agree with any of the plumages of the species which had come under my observation. This was the result of a hasty examination, for being extremely busy at the time I laid it one side for further comparison.

Later study upon it proved as nearly as possible, without

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\* *Helminthophaga Lawrencii*, Herrick. Proc. Acad. Natural Science, Phila., 1874, pl. 15, p. 220.

actual comparison with like skins, that it was identical with the *Buteo vulgaris* of Europe. Supposing that Mr. Allen had quite probably received it from abroad the matter rested here; but as there was still some uncertainty as to whether it was that species, on account of my not having compared it with typical specimens, the question would arise in my mind every time I saw the skin.

Various ornithological friends examined the specimen and expressed some opinion about it, yet all were inclined to believe that it was a European bird, while I never gave the time necessary for settling the matter by writing Mr. Allen. Thus the skin had been lying in my collection until the past autumn, when at the request of Mr. Brewster I showed it to our mutual friend, Mr. Henry Henshaw, who urged me to let him take it to Washington, that it might be examined by Mr. Rob't Ridgway.

Shortly after this Mr. Henshaw informed me, per letter, that it was indeed *Buteo vulgaris*, but that there was a decided improbability that it was taken on this side of the Atlantic. Curious to know its history I wrote to Mr. Allen, asking him if he remembered the specimen, and if he could tell me where it was taken.

The reply was quite unexpected, for Mr. Allen stated that he remembered the bird well, and as there were peculiar circumstances connected with its capture he recollects clearly that it was shot in Michigan. I then wrote again, giving him for the first time an account of the interest which was attached to the capture of this species in the United States, and begged him to relate all he knew about it. To this epistle I received the following reply. As Mr. Allen's account is not only interesting but important as proving beyond the shadow of a doubt that the bird in question was actually taken in Michigan, I give his letter verbatim. I will, however, preface it by saying that all the other Hawks sent to me by Mr. Allen were correctly labeled "Red-tailed," "Red-shouldered," etc., but this bore the simple legend "Hawk." This fact, together with its extremely peculiar plumage, rendered it easy for him to remember what particular skin was under consideration.

"PAW PAW, MICH., Jan. 16, 1876.

MR. MAYNARD—

Dear Sir:—Yours at hand and noted. I am surprised as well as pleased to learn that the Hawk proves to be so valuable and interesting a specimen. When I shot it I was unable to decide what it was,

but rather thought it was an immature specimen of *Buteo lineatus*, but being uncertain did not give it a specific name when I sent it to you. The circumstances connected with its capture are as follows:

Returning one morning from the head of a small pond in the vicinity of Paw Paw, Mich., where I had been duck shooting, I discovered a Hawk perched on the dead branch of a leaning tree that grew from the bank at the water's edge.

I was in my boat, and at least twenty-five rods from the tree, in full view of the bird, which was eyeing me attentively, so I had no chance of approaching him except in full view, and as he appeared about to fly I gave up all hopes of getting a shot at him. But to my surprise he described a complete circle and came nearly over my head, when I fired at him.

He continued his flight in an awkward and laborious manner until he reached the shore; then dropped dead within a few feet of the very tree from which he started.

I think that this was about the first of October, 1873, but am not certain about the exact date. I have often thought of the peculiar movement of this bird. Here, when I had given up all hopes of approaching him he should fly to me, as it were, to receive his death wound, then return again to the shore to suffer himself to fall on dry ground. I may add that I have never had any birds directly from Europe, and none larger than an English Fieldfare.

Respectfully yours,

J. D. ALLEN."

Although this species has been excluded from our ornithologies for many years, yet this is not the first instance on record of the capture of *Buteo vulgaris* in North America. As early as 1838, Audubon made mention of it. In Vol. IV, page 508 of Ornithological Biography he says, speaking of his illustration, [Pl. 372]: "The specimen from which the figure before you was taken was shot by Dr. Townsend on a rock near the Columbia River, on which it had its nest."

Then follows Audubon's description, which agrees in every particular with my specimen; differing utterly from that of Swainson's Hawk (*Buteo Swainsoni*), which I have before me, and which more recent authors appear to think Audubon had in hand when he made his description. I give below the main points of difference between Audubon's description and Swainson's Hawk, which will also apply equally to my specimen:— "Feet; short, robust." Swainson's has quite slender tarsi. "Wings; long, broad, the fourth quill longest." Swainson's has the third the longest. "The third next, the fifth very little shorter, the second longer than fifth." Swainson's has the fourth next longest, the fifth fully an inch shorter than the third whilst the fifth is a little longer than the second, making quite a differently formed wing from that of *vulgaris*. "First four abruptly cut out on the inner web." Now it is a well known character of Swainson's to have but three incised primaries.

Speaking of primaries, Audubon says, "A greater part of the inner web, with the shaft white \* \* \* \* the white of the inner webs of the primaries forms a conspicuous patch, contrasted with the grayish-black of their terminal portion." This is a remarkable feature not noticeable in Swainson's. Audubon's bird had the "lower wing-coverts white barred with dusky." Swainson's has rufous under wing-coverts.

The above are the principal differences, and together with Audubon's fine plate, which is a perfect facsimile of my bird, give a most emphatic contradiction to all assertions that Audubon was unable to distinguish the difference between *Buteo vulgaris* and what to him would have been a new bird. This noted ornithologist was constantly on the lookout for new species with which to embellish his book, and it is extremely improbable that he would have let such an opportunity escape him.

The descriptive points given are enough to separate Audubon's bird from all others, but as if to give more weight to his testimony we find him saying as a final to his article: "When compared with European specimens, mine have the bill somewhat stronger; but in all other respects, including the scutella and scales of the feet and toes, and the structure of the wings and tail, the parts are similar."

It will be noticed that he uses the plural "mine," for before this was appended he had received another, also shot by Dr. Townsend, on the plains of the Snake River.

Swainson and Richardson, in "Fauna Boreali Americana," Vol. II, page 47, also make mention of a species under the name of *Buteo vulgaris*, and give a figure of the same. They were, however, without doubt mistaken in their identification, the bird which they had being really *Buteo Swainsoni*, as both description and figure clearly indicate. Reverting once more to Audubon, I will answer a query which will arise in almost every one's mind, viz:—How was it that Audubon did not find the common *B. Swainsoni*, and yet have specimens of the rarer *vulgaris* pass through his hands?

First—The country inhabited by this Hawk (Swainson's) was comparatively unknown at that time, and consequently not much traversed by naturalists.

Second—Audubon never noticed some of our most common species, while he discovered and described many rare ones that were closely allied to them. Notably among these was the

Least and Yellow-bellied Flycatchers (*Empidonax minimus et flaviventris*), both of which were unknown to him until pointed out by Prof. S. F. Baird. Accident or perhaps a singular chain of circumstances will often prevent a collector from finding species which are very common. During my first visit to Florida I took nearly every species which was known to exist in the section which I visited, yet never saw a single specimen of the Tufted Titmouse (*Lophophanes bicolor*), which I have since found there in abundance.

Lastly — Is *Buteo vulgaris* very rare in the Northwest? I know that this section has been ransacked by good collectors, yet sometimes birds will escape observation for years, and at last be found common. Such certainly has been the case with Baird's Bunting (*Passerculus Bairdii*); and Sprague's Lark (*Neocorys Spraguei*). In conclusion, then, I may add, that as three specimens of the Common Buzzard have actually been taken within our limits it is extremely probable that it will be found of regular occurrence in the Northwest.

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NESTING OF THE GOLDEN-WINGED WARBLER (*HELMINTHO-  
PHAGA CHRYSOPTERA*), IN MASSACHUSETTS.

BY J. WARREN.

Of all our warblers there are few that surpass the Golden-wing in elegance of plumage. Though comparatively common with us during the spring migrations but few appear to remain to breed, and yet our State has been considered about its northern limit on this coast. They arrive in eastern Massachusetts from the second to the third week in May, when they are very active, flitting through the trees and young growth, diligently searching for their food, which consists of insects and their larvae, occasionally giving vent to a rather loud, peculiar and unmistakable song, which, though not so musical as that of most of the other individuals of this family, is very pleasing. The Golden-wings do not seem to confine themselves wholly to swampy situations, as is usually stated, but are sometimes found on higher ground, quite remote from such places. They pair shortly after arriving, and commence to build from the latter part of May to the first of June. The first authentic nest found

in this section of the country was that collected by Mr. C. J. Maynard, June 12, 1869, and admirably described by him on page 100 of the "Naturalist's Guide." This nest was placed on a slightly elevated tuft of moss, near a swampy thicket, within a short distance of a travelled road, and contained four eggs, and also one of the Cow Bird (*Molothrus pecoris*), which were within a few days of hatching. Since this nest was found there have been no others taken, to my knowledge, until the past year when three were discovered; one each by my friends, E. B. Towne, Jr., and W. W. Eager, who have kindly allowed me to use their notes, and the third by my brother and myself.

We were out collecting on the afternoon of June 8th, 1875, and while passing through a strip of swampy land on the outskirts of a small wood, flushed a bird from under a plant known as "Skunk Cabbage," (*Symplocarpus foetidus*.)

Upon searching we found the nest concealed by the large leaves of the plant. It was raised about two inches above the wet ground by dead oak and maple leaves which were quite damp. The owner soon came back, and hopping excitedly from branch to branch of an alder thicket a few yards away, almost continually uttered a sharp chirp of alarm, betokening her strong dislike to the intruders; but, strange to say, her mate did not make his appearance, although we could hear him distinctly zee-zee-zeeing, a few rods away. As it was fast growing dark, and feeling satisfied that she had laid her set, we shot her.

The nest, which closely resembles that of the Maryland Yellow-throat (*Geothlypis trichas*), is composed outwardly of dry oak and maple leaves, interspersed with long stripes of the outer bark of the grape vine; and is lined with fine fibrous shreds of the same of a reddish tint, interwoven with one or two very small pieces of dry grass. The measurements are as follows: height, 2.75 inches; width, 4.25; diameter inside, 2.30; depth inside, 1.60.

The eggs are three in number, two *pure white*; the third sparsely spotted on the larger end, and measured respectively, .69x.53, .68x.51, and .65x.49. One of them was out of the nest, and had three small holes close to each other on the upper side, through which a little of the albumen had leaked out and dried. I cannot with certainty account for this, as I feel quite positive that no other person had ever molested the nest, but think that a squirrel, or other rodent, had eaten one of the eggs, pulled

out another, perforating the shell with his claws, and being attacked by the birds, quitted the nest, leaving the remainder of his spoil behind. Both of the eggs in the nest were slightly incubated, while the one outside was quite fresh.

The following is an extract from Mr. Towne's journal :

"While out collecting, early in the morning of the 29th day of May, 1875, as I was walking up a hillside through small white birches, saw a Golden-winged Warbler within twelve feet of the muzzle of my gun; was about to shoot, when I noticed a small straw or dry blade of grass in her mouth. The thought of finding her nest induced me to watch closely. She soon flew and alighted in the centre of an old cart path. I went to the spot and was delighted on finding in the centre of a small tussock of grass the commencement of a nest. Went to the place the next day and saw the female at work; did not go again for two days when there was one egg. On June 5th I took the nest with four fresh eggs. By creeping up carefully and putting my hand over the nest, succeeded in catching the female. Saw the male soon after, but he was exceedingly shy."

In structure the nest closely resembles mine, but is a little narrower and deeper inside. It measures in height 3.00 inches, width, 3.80, diameter inside, 1.90, depth inside, 2.00. The eggs are white, faintly spotted with red on the larger end, and measure .72x.52, .70x.56, .70x.48, and .68x.58 inches.

Mr. Eager found his nest about one fourth built on the 5th of June, 1875, in rather low, wet woods, within one hundred feet of a travelled road, and it was placed on the ground between some young oak sprouts. June 9th, it contained four eggs. He did not see either of the birds until the 11th, when he shot the female, but did not see the male at all. The nest was well concealed by dry leaves, and was made up outwardly of dry and skeletonized oak leaves, and lined with grape vine bark interwoven with fine yellow grass. Height, 3.00; width, 3.60; diameter inside, 2.10; depth inside, 2.00. The eggs were white, with few light reddish spots on the larger end, and measure, .70x.54, .69x.55, .69x.53, and .69x.55 inches respectively.

These nests were all found in Newton, within a mile of each other.

NOTES ON THE ROUGH-WINGED SWALLOW (*HIRUNDO SERRIPENNIS*), IN PENNSYLVANIA.

BY WALTER VAN FLEET.

I have, during two years of rather careful observation, noticed a constant and decided difference in the breeding and other habits of the Rough-winged Swallow, as compared with the Bank Swallow (*H. riparia*). The main points are as follows:

*H. serripennis* is not gregarious while nesting, but during the breeding season appears rather to avoid its kind, as well as the Bank Swallows, and to associate only in pairs. Their nesting holes are not placed near each other in the manner of *H. riparia*, but are scattered along the banks of creeks and rivers at irregular intervals, wherever an especially favorable locality occurs. They very seldom excavate a hole for themselves, but generally take up with any suitable cavity, and alter it to suit their taste. It is quite common to find them breeding in deserted Kingfishers' holes, and in this case placing the nest within a foot or eighteen inches from the entrance. They will also, on finding a decayed root of sufficient size, leading in from their favorite sand banks, remove the soft punky wood, following the winding of the root, until they have arrived at a suitable distance—about two feet—where, after enlarging the cavity, they place their nest. This species is also fond of building in holes in stone bridge piers and other masonry, near water, returning to the same place year after year.

In the few cases which I have observed of their excavating, for themselves, it has been done in a very slovenly manner, and invariably their holes have been much larger than is apparently necessary, and *round* at the entrance, while on the contrary the holes of the *H. riparia* are very symmetrical ellipses, with the longer axis horizontal, and not larger than is needful to permit free ingress and egress of the birds. I have never yet, in this locality, found a Bank Swallow's hole large enough to admit the hand, without enlarging, while the nest of the Rough-wings can generally be reached without any trouble, except when built in masonry. In this case they will pass through a crevice barely large enough to admit their bodies, providing there is a cavity within large enough to contain the nest.

The nests of *H. serripennis* are generally much more carelessly built than those of *H. riparia*; they do not seem to go any distance for their materials, but appear to pick up anything suitable which they can find within a few rods of their habitation. The nests of the two species are composed of nearly the same substances, but those of *H. riparia* exhibit a greater variety in the same nests, for, as they build in large colonies, they are obliged to search for materials in different places. On one occasion I remember finding a nest of *H. serripennis* composed entirely of feathers of domestic fowls. It was built in a deserted Kingfisher's hole, in a sand bank, about fifteen rods from a barn-yard, in which fowls were constantly kept. At another time I found three fresh eggs lying on the bare sand; the hole was a mere pocket, barely six inches deep. In this case the female bird was probably under so great a necessity that she did not have time to construct a nest in the usual manner, but had hastily deepened the already formed cavity.

I have quite frequently found fresh eggs in the nests of *H. serripennis*, and those far advanced in incubation; indeed, have found fresh, nearly hatched eggs, and young birds, in the same nest, but I have never noticed anything like this among Bank Swallows, though I have searched carefully.

In general habits the difference is perhaps less marked. The Rough-wings arrive here about the 10th of April, in large numbers, full two weeks before the Bank Swallows, and are found in company with *H. horreorum* and *H. bicolor*, playing around, and chasing insects over the ponds and rivers.

About the first of May the Bank Swallows come; *H. serripennis* then appear to grow scarcer, and to desert the vicinity of ponds and streams where there are no sand banks. During the latter part of June and through July, I have often met pairs of Rough-winged swallows flying steadily in a particular direction, one or another turning out to pursue an occasional insect, but when it was captured returning to its former general course, over meadows, forests and streams until lost to sight. I have thus met pairs at different times, going towards all points of the compass. As they fly quite high at these times I have never succeeded in killing both birds, but think they would prove to be male and female.

About the last of August, both this species, and *H. riparia* begin to migrate southward, associated with the Barn Swallow.

lows; when there is no perceptible difference in the habits of either. By the middle of September they have all disappeared.

WATSONTOWN, PA., FEB. 20th, 1876.

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ON THE BREEDING OF THE BLACK-THROATED BLUE WARBLER (*DENDROCA CÆRULESCENS*) IN CONNECTICUT.

BY C. M. JONES.

As but little is known concerning the nesting of this warbler, a description of two instances which have come under my observation may not be without interest. But perhaps the most interesting fact connected with the discovery of these nests is the occurrence of this species, during the breeding season, so far south of its usual summer habitat. Eastford, where they were found, is in the north-east corner of Connecticut, being eight miles south of the Massachusetts line, and sixteen miles west of the Rhode Island line.

My first discovery of the nest of this bird was on the 8th of June, 1874. While taking a stroll in search of specimens for my cabinet, my attention was arrested by a bird of which I could not determine the species. I tried to get a shot, but it was in the tops of the trees, and kept flitting about so rapidly that I could only keep it in view sufficiently to follow, which I did for, perhaps, seventy-five yards, and then lost sight of it entirely. But just then I discovered a nest of the Wood Thrush (*Turdus mustelinus*), proceeded to appropriate the eggs, and had scarcely finished packing them, when I again discovered the bird, of which I had been in pursuit, in a bush not more than a dozen yards off, and from her restless manner I was convinced that it had a nest very near. I accordingly retired a short distance, and sat down to await further developments. Presently it flew near the Thrush's nest, and after waiting a few moments, dropped into a low bush and disappeared. Allowing it sufficient time to get settled, I carefully approached the spot, and, looking under the low bushes, discovered it sitting on a nest, not more than two feet from where I stood while taking the Thrush's eggs. The bird let me approach within a yard before starting, and then, hop-

ping suddenly to the ground, it flew to a bush five or six yards off, uttering a few low chirps, endeavoring apparently to conceal itself. Not being able to identify the species I was obliged to shoot, and it proved to be a female *Dendræca cærulescens*.

The nest was located in deep woods, near the base of a hill, which sloped down to a swampy run. It was built in a small laurel, (*Kalmia latifolia*), a fourth of an inch in diameter at the base. About five inches from the ground the bush separated into three branches, and in this triple fork the nest was situated. It has a firm and compact appearance. External diameter, about three inches; internal, one and three-fourths inches; external depth, two and three-fourths inches; internal, one and three-fourths inches. Top of nest, seven and one-half inches high from the ground. It is composed outwardly of what appears to be the dry bark of the grape vine, with a few twigs and roots. This is covered in many places with a reddish, woolly substance, apparently the outer covering of some species of cocoon. The inside is composed of small black roots and hair. The nest contained four fresh eggs, of which the following is a description:—

No. 1, ashy-white, with a ring of brown and lilac spots and blotches around the larger end, and a few minute spots of the same scattered over the entire surface. Precisely at the centre of the large end is a small spot of deep umber: dimensions, .61 by .47. No. 2, white, with a slight tinge of green; the larger end covered with blotches and spots like No. 1; one side, near the small end, shaded with the same, where there are also a few small spots of dark umber: dimensions, .61 by .47. No. 3, ground color like No. 2; the larger end covered with blotches of light brown and pale lilac; a spot of dark umber near the small end—dimensions, .64 by .50. No. 4, ashy-white, the larger end surrounded and nearly covered with spots of brown, with minute spots of the same scattered over the entire surface—dimensions, .66 by .50.

The second nest I discovered on the 13th of the same month. It was about eighty rods distant from the first, on level ground, and near a piece of swampy land. The spot was somewhat shaded by hemlocks; the principal part of the forest trees being oak and chestnut.

While examining a nest of *Vireo olivaceus*, I heard a faint chirp slowly repeated, and, looking around, soon discovered in

one of the hemlocks a bird which I felt sure was of the same species taken a few days before. From her manner I felt she had a nest not far distant, and remembering how closely the other allowed me to approach before leaving her eggs, I concluded that I must have passed very near the nest of this bird; therefore retracing my steps, and looking carefully among the bushes I soon discovered the object of my search. Desiring that there should be no mistake about the species, I at once went home, and, taking my gun, returned to the place. Approaching cautiously I discovered her on the nest. She permitted me to approach very near, and then, like the other, dropped suddenly from the nest, and flew into the same hemlock in which I first found her. After securing my bird I took the eggs, but to my regret found that incubation had proceeded so far that it was impossible to save them. These—four in number—were of a darker shade than the first set, but this was evidently the result of incubation. They were also more spotted, and the spots spread more generally over the entire surface than in the other set. The nest was not so near the ground as the first, the top being eleven and one half inches from it. It was placed in a laurel, or more strictly speaking, in two laurels. One of these lay horizontally in the fork of the other, and on the horizontal one the nest was set, held in place by being attached on one side to the upright branches of the other. It is constructed of the same materials as the first, excepting the woolly substance on the outside, of which there are only two small pieces. External diameter, three and one half inches; internal, one and seven-eighths inches; external depth, two inches; internal, one and three-eighths inches.

As will be seen, by comparison, the nest is much more flat than the first, the result, undoubtedly, of its different situation on a horizontal branch, while the other being in a narrow triple fork, was necessarily narrower and deeper. Placed side by side the two nests bear very little resemblance, and would hardly be suspected of belonging to the same species.

## ON TWO EMPIDONACES, TRAILLII AND ACADICUS.

BY H. W. HENSHAW.

Perhaps no one group of North American birds has given rise to more confusion, and perplexing errors of identification than our small Flycatchers. More from this reason than from any other cause, our knowledge of the exact range of several of them is still far from being as complete as would be desirable. With a few words on this subject I shall pass to the main object of this paper, which was to call attention to certain differences, between the nests of the two species mentioned above, which it seems to me have never been sufficiently emphasized in the distinction of the two birds, though by no means unknown before.

In New England, if the Acadian Flycatcher be found at all, it is in the character of a very rare visitant, and I am inclined to believe that all of the various quotations assigning this bird to a place in the New England fauna may be set down as instances of mistaken identification, not excepting the evidence of Mr. J. A. Allen, who states that *E. acadicus* is a rare summer visitant near Springfield, Mass. I am inclined to think that Mr. Allen's *acadicus*, were really *Traillii*, more especially since, in recounting the habits, he says, "it breeds in swamps and thickets, which are its exclusive haunts." This accords perfectly with the habits of *E. traillii*, and is utterly at variance with those of *acadicus*, as elsewhere shown.\*

As at present made out the Acadian Flycatcher reaches no further north along the coast than New Jersey. Nor in the interior does its range appear to extend much if any higher. Going west we find it occurs in about the same latitude in Pennsylvania, in Ohio, where it is numerous about Columbus, (Dr. J. M. Wheaton,) and in southern Illinois, as shown by Messrs. Ridgway and Nelson; while the Mississippi may be looked upon as marking about its western limit.

We find, however, one quotation from further west, that of Mr. Allen of eastern Kansas. In its distribution the Traill's Flycatcher is decidedly more northern, though the southern line

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\*Since penning the above I understand that Mr. Allen allows this view to be correct.

of its summer habitat is found to be somewhat that of its congener. Such is the case in Pennsylvania, in Ohio and Illinois.

Limited to about Kansas in its extension westward, Traill's Flycatcher then fades into the closely allied form, known as var. *pusillus*, which seems to inhabit the western country at large, without much regard to the climatic condition which it finds.—In addition to many intermediate quotations we find it from Washington Territory (Cooper,) to New Mexico and Arizona where I have found it almost to the Mexican line, and also in southern California.

In this wide range of country the Traill's Flycatcher appears to have changed its habits very little. It is everywhere a bird of the swamps and lowlands, being especially partial to the running streams, whose banks are well clothed with willow, disposed in dense thickets. This is as true of the var. *pusillus* in the west as of *Traillii* in the east, and there is seen also in the architecture of the nests of the two a similarity which is quite remarkable, when is taken into consideration the wide extent of country occupied by the two varieties. Slight variations aside, which are chiefly the result of a difference in the materials used, the selection of which always largely depends upon fortuitous circumstances, there is almost no difference.

As typical then of either variety, I shall briefly describe a nest of *Traillii*, one of a series of five, kindly presented by Dr. Wheaton, and taken near Columbus, Ohio.

It may be fairly compared with the usual structure of the Summer Yellow Warbler (*Dendroica aestiva*), so well known to every one, but lacks something of the compactness and neatness shown by this species in its method of weaving together the materials that make up its home. Hempen fibres compose the exterior, or the hulk of the nest, while internally it is lined in true Flycatcher style with fine grasses, and a slight admixture of down from thistles; the main point of all, however, is its position with regard to the branches. It is built into an *upright* fork, the small twigs that surround it being made available to secure it more firmly in its place by being encircled with the stringy fibres. In this particular of position correspond all of the nests of this bird I have seen, as well as those of *pusillus* in the west.

Taking now a nest of *E. acadicus*, and placing it beside the others, a very striking difference is at once seen. Instead of comparing it with the structures of any of the Warblers, or with

those of the above species, we are at once reminded of the Vireos, though no one familiar with the elegant basket-like structure of these weavers would think of mistaking this for one of their masterpieces. The resemblance is but a superficial one, beginning and ending with the manner the nest is disposed in a *horizontal* fork.

It is a slight structure made of fine grasses, interspersed more or less with the blossoms of trees, the whole disposed in a circular form, and fitted between two twigs; a firm support is derived from a binding of spiders' webs, which are interwoven with the sides of the nest, and then carried over the twigs on either side, encircling them with strong bands. The entire base of the nest is without support, and so thin is the slight structure that the eggs might almost be seen from below. This nest was built in a small tree, perhaps twenty feet from the ground. In this respect the two species vary but little, both preferring to select the lower branches of tree or shrub as the site of their domicile, and only rarely departing from the rule. This last nest was taken near Washington, by Mr. P. L. Jouy, who kindly placed it at my disposal. The contrast between these two structures could indeed scarcely be greater, and those selected for description may, I think, be taken as fair samples of the styles of nest architecture that obtain with the two species, at least all of a considerable number I have seen, from several localities, correspond with the foregoing.

A word as to the eggs. After examination of several sets of either species, of which the identity was unquestionable, I am certain that no decided differences of coloration exist between them; none at least that are constant and that can be made of use in the exact discrimination of the two. Dr. T. M. Brewer, in speaking of the eggs of *E. trailii*, describes them as possessing a "white ground color with a distinct roseate tinge," and marked with large and well defined blotches of purplish brown, while in his description of *acadicus*, he says in distinction, the eggs resemble more those of the *Contopi*, and are "of a rich cream color with reddish-brown shading, marked at larger end with scattered and vivid blotches of red and reddish-brown." The truth is, however, that the shade of the ground color of either species is extremely variable, not being alike in any two sets I have examined. The eggs of Traill's Flycatcher are frequently

found to be of a very decided cream color, approaching buff, while those of the Acadian, if anything, are more buffy, but will now and then be found to be fully as pale as some of the Traill's. The markings, too, are subject to considerable variation as to precise shade, number and size.

On this point Dr. Wheaton remarks, that while he can discover no specific difference in the eggs of the two birds, he is of the opinion, that the eggs of *acadicus* average a little longer and slenderer than those of *Traillii*, and have perhaps a *yellower* buff tinge.

With reference to the habits of these two species, Dr. Wheaton has always observed a very decided difference, especially in the localities chosen as homes, and considers "the locality as characteristic of the species as any of its other points." He has always found Traill's Flycatcher a lover of the low grounds, and especially fond of the willow clumps along running streams, while of the Acadian he says: "It is never found in company with, or in such localities as are frequented by the Traill's. In all cases it is found in upland woodland, preferably, and I might almost say as far as my observation extends in beech woodland. I have never seen it even during the migration in other places."

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#### ON THE OCCURRENCE OF CERTAIN BIRDS IN THE NEW ENGLAND STATES.

BY WM. BREWSTER.

It must be admitted that the knowledge which we possess of the geographical range of even the commonest of our North American birds is at present but imperfect.

Important and interesting as this branch of ornithological lore may be regarded and receiving, as it has of late, considerable attention, it yet admits of much closer study. Local lists have proved of great value as offering readily available exponents of desultory field work, and it is to them that we must often turn for our most valuable notices of rare species. The component species of these lists are classed under two heads—those which more or less regularly occur in the district treated—and others, extralimital by right, but which driven before

storms or wandering aimlessly, are finally captured in a region so remote from the usual range that the chances are a thousand to one against another individual of the same species ever finding its way thither again. Occurrences of the latter class are certainly not devoid of interest, but their value to the intelligent student of ornithology can bear no relation to that of the discovery of a species, which of regular, perhaps almost common, occurrence, has entirely eluded the search of former collectors. Thus the capture of the Varied Thrush in Massachusetts must be regarded purely in the light of an accident—an accident, moreover, which proves nothing beyond the bad taste of the bird in straying to a region so remote and so overrun by collectors of its race; while the establishment of a fixed fact like that recently developed, of the regular seasonal appearance in considerable numbers of *Passerculus princeps* along our New England coast, cannot fail to prove of the utmost practical value to the ornithologist, and reflectant of great and lasting credit on the fortunate discoverer.

In the present state of our available knowledge, however, classifying any newly acquired feathered citizen under either of the above heads, can scarcely fail to prove a somewhat dangerous and arbitrary committal. Truly, in ornithology, "we know not what the morrow will bring forth;" perhaps it will be our "accidental visitor" in multitudes; or the bird which we shot yesterday, for the first time, may never be heard from again.—Manifestly the only thing that can be safely done is to "make a note of it," and calmly await future developments. Sage prophecy has, however, such temporary charms, that the best of us fail to keep altogether clear of it at times, and it may not be gainsaid that it has its value—a value, however, that bears always a most close relation to the reliability to its author. It possesses in addition a no small element of luck, and is in some sort a kind of ornithological gambling, where the fate or fortunes of the participator are decided by the dice-throw of future discovery.

Of the following five species, two are recorded for the first time in New England; two are new to the State of Maine, and the last has never been previously taken in Massachusetts. Although the temptation to theorize a little on the occurrence of some of them is great, it will be at least more consistent to act in accordance with the philosophy just advanced and simply give the facts, leaving the commentary to future times and wiser heads:

*Junco Oregonus*, (Towns.), Scl. Female, shot in Watertown, Mass., March 25th, 1874. This specimen is quite typical, and its identity has been confirmed by my friend, Mr. H. W. Henshaw, who has recently examined it.

*Corvus ossifragus*, Wils. On the morning of March 16th, 1875, I saw a bird of this species flying swiftly over our place in Cambridge. It was pursued by at least twenty-five or thirty of our common species, (*Corvus Americanus*), and at each renewal of their attacks gave utterance to its peculiar and unmistakable notes. Having thoroughly familiarized myself with its voice and motions in the South, where it is abundant, I feel confident that I could not in this instance have made any mistake. The very fact of its having drawn the angry attention of so many common crows, at a season too when their gregarious habits are given up for more social relations, proves that it was to them an object of novelty and one deemed worthy of suspicion and hatred. I am not aware that any such feeling is maintained when the two species come together in numbers; but however this may be matters little, as our bird habitually treats all suspicious strangers in a like manner, and the collector is not seldom indebted for a rare hawk or owl to the watchful eye and clamorous alarm of this sable sentinel.

*Vireo Philadelphicus*, Cass. On Sept. 7th, 1875, I shot a female of this beautiful little species in Cambridge, Mass. It was feeding in company with several individuals of *Vireo olivaceus*, in a low willow tree.

*Tringa Bairdii*, Coues. I secured a fine male of this species at Upton, Oxford County, Maine, Sept. 1, 1875. When first observed it was sitting alone on a mud flat at the foot of Lake Umbagog.

*Philomachus pugnax* Gr. Female. Killed at Upton, Oxford County, Maine, September 8th, 1874. It was shot while flying on the marshes at the mouth of Cambridge River. My attention was attracted to it by its peculiar hawk-like flight, which, provided it be a constant attendant of its motions, should at once distinguish it while on wing from any other *Tringa*. I am aware that this species has already been given in Mr. G. A. Boardman's "List of the Birds of Calais, Me.," but Dr. Brewer informs me that none of the specimens therein referred to were taken within Maine limits. The only authentic N. E.

quotation that I can at present recollect is the record of a Mass. specimen in "Am. Nat." vol. vi, p. 306. The occurrence of the present individual so far inland is worthy of remark.

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#### ALBINISM AND MELANISM AMONG NORTH AMERICAN BIRDS.

BY RUTHVEN DEANE.

What a striking contrast it is as we examine a collection of Birds, to see one of our familiar friends standing out in bold relief among others of its own species clad in a spotless suit, or perhaps wearing a most variegated coloration of plumage, a white head, a white wing, or a few white tail feathers, while the rest of the bird retains its normal plumage.

This "freak of nature" is of more frequent occurrence than is generally supposed, yet notwithstanding how difficult it is for an individual to get together any number of specimens.

I presume there is scarcely a collection of any size in the country that has not one or more specimens represented, and yet many of our most experienced collectors, who have shot thousands of birds, are yet to have the luck (for sheer luck we must call it) to add a specimen to their cabinet taken with their own gun, and one must generally be content with but few examples.

During the past few years I have been fortunate enough to add about a dozen specimens to my collection, though have only taken an individual myself. As I have just remarked we may shoot a whole season in various parts of the country, and travel many miles without happening upon a single specimen, yet scarcely a week passes that we do not see in some of our daily papers that so and so recently shot a white Robin, or a white English Sparrow was seen in one of our public parks, or a white Blackbird is making a sensation in a certain locality, and it must be generally acknowledged that the casual observer is more fortunate than one who is constantly in the woods and fields.

Pure albinism is of rare occurrence, the majority of specimens retaining more or less of their normal dress. Of course this disease is liable to occur in any birds, though more frequently

in some families than others, and I can now recall some fifty or sixty different species in which it is represented.

Among the *Turdidae*, the Robin (*T. migratorius*), is the only species I have seen in the albino state, and in my experience is the most common example among our birds, though we rarely hear of pure white specimens, and out of some twenty I have seen, there were not any two that resembled each other.

Among the *Saxicolidae*, I have seen the Bluebird (*S. sialia*) represented, the specimen being of a light yellowish cast, though traces of its normal plumage could readily be discerned.

Representatives among the *Sylvicolidae*, I have seen in limited numbers for so large a family, the examples being *P. Americana*, a beautifully marked specimen among the collection of the Smithsonian Institution. *D. castanea*, a small portion of the forehead being white, and extending over half of the upper mandible. *D. coronata* has been taken in partial state, and *S. ruticilla*. This latter species I shot some years ago, and it presents a curious mixture of coloration. The black head and breast is mottled with white, the black dorsum is replaced by bright orange, with a few blackish feathers intermixed, while the belly and crissum are much more strongly marked with orange than in a typical specimen. I was attracted at some distance by this peculiar plumage, and like all abnormal birds it was unusually shy.

Albinism among the *Hirundinidae* is generally pure white or of a strong yellowish cast, and I cannot recall of having seen or heard of a specimen in only a partial state. I have seen specimens of *H. horreorum*, *T. bicolor*, *C. riparia*, *P. lunifrons*, and *P. purpurea*, in this white dress. *Ampelis cedrorum* has been taken in some striking stages of plumage, the crest, wax appendages on the wings, and the yellow tips of the tail feathers retaining color, while the rest of the body bore a bleached out appearance.

Doubtless the *Fringillidae* are represented more largely than any family, though but eleven species have come under my notice, *Passer domesticus* being the only one pure white. A specimen of *A. linaria* was recently captured, whose plumage was white, with the exception of the crimson patch on the crown. The other examples are *P. gramineus*, *M. melodia*, *J. Oregonus*, *S. monticola*, *S. socialis*, *S. pusilla*, *Z. albicollis*, and *P. iliaca*—all these presenting a mottled plumage. In a specimen of *Z. albicollis*, kindly presented to me by Mr. N. C. Brown, of Portland,

Maine, the head is pure white, with the exception of the yellow superciliary stripe which remains and causes a marked contrast.

The most interesting and striking cases of albinism are those among the *Icteridae* and *Corvidae*, and how many times have I astonished disinterested persons by referring to a white Blackbird or a white Crow, and to such persons it must indeed seem very absurd to prefix "white" before Blackbird, and also before Crow, for how common the comparison is, "as black as a Crow," but as previously remarked, this family are as likely to be represented as any others. Several examples of *S. magna* have been noted. *D. oryzivorus* has been taken in this plumage, as has also *M. pecoris*, *A. phainopeplus*, *X. icterocephalus*, *Q. purpureus*, and *C. cristatus*. This last was a beautiful specimen of a peculiar character of albinism, the bright plumage being modified as though a white veil had been thrown over it, yet all the natural markings of the birds could be plainly seen.

I am induced to think that among the *Tyrannidae* but few examples have been detected, as *T. Carolinensis* is the only example I have ever heard of. This specimen was in the collection of Mr. James Booth at Niagara Falls. The bird has a stained or creamy plumage, but the most interesting point is that the flame-colored patch on the crown remains; a case similar to *A. linaria*. *C. auratus* is the only example among the *Picidae* that has come under my notice. I have an extremely light colored specimen of *S. varius*, which I collected at the Umbagog Lakes, but am inclined to think that this was caused by old age.

Among the *Strigidae* a fine specimen of *S. nebulosum* is in the natural history museum at Niagara Falls. The only one among the *Falconidae*, on my list, is that of *B. borealis*, a magnificent example, pure white, taken on the Hoboken marshes, N. J. Among the *Columbidae*, *E. migratorius* is noted. Frequent occurrences among the *Tetraonidae* are illustrated in *C. cupido*, *B. umbellus*, and *O. Virginianus*, though occasional examples are found in *O. pictus* and *L. Californicus*. A beautiful specimen of *B. umbellus* was recently taken in West Bridgewater, Mass., its plumage being white as the driven snow.

I have seen *O. Virginianus* having the veiled appearance as described in the Blue Jay.

An albino, *C. fulvus* var. *virginicus*, was shot on Cape Cod, in September, 1875. This is the only instance which has come to my knowledge of albinism occurring in any of our Plovers or

Sandpipers, and as these species are shot in such immense numbers during the migrations is it not a little strange that we do not hear of more examples, as such curiosities are always preserved, even by the market gunner. *P. minor* and *G. Wilsoni* have been shot in white plumage, and thus our four game-birds have been added to the list.

*P. Carolina*, in albinistic plumage is among the collection in the Boston Museum. Examples of others of this family I have not noted. I have seen nine species representing albinism among the *Anatidae*. A partial want of coloration in *B. bernicla* is an interesting specimen; *A. boschas*, *Q. discors*, *H. glacialis*, *F. affinis* and *F. vallisneria*, bore more traces of albinism than of their normal plumage, while specimens of *B. clangula*, *A. albeola*, and *O. fusca*, were pure white, this latter presenting almost as great a contrast as in the case of the Crow. The *Procellariidae* are represented by one species, *F. giganteus*, which is in the collection of the Philadelphia Academy.

One of the finest and most attractive examples is among the *Colymbidae*, a snow-white specimen of *C. septentrionalis*, which was shot in Salem Harbor, Mass., and is now in my possession. A similar curiosity is at the Smithsonian Institution. An albino *L. troile* is in the Museum collection at Toronto, Canada. *U. grylle* and *M. alle* have also been recorded.

Many questions would naturally arise as to the cause of this abnormal state in which so many of our birds are found, though I believe it is generally understood to be a lack of the coloring matter deposited in the cells of the feathers. It is certainly not influenced by any climatic changes or geographical distribution, as specimens are taken throughout the country, and not more or less abundant in any locality; nor is it caused by old age, for we have heard of broods of young Quail in albinistic state accompanied by white parents; and another interesting example, is that of a young Robin, milk-white, still unable to leave the nest. This specimen was taken at Saybrook, Conn., by Mr. H. A. Purdie, who informs me that the parent birds were in normal dress.

Whether any specimens hatched in this stage have been detected to attain any of their regular plumage after the moult, I am unable to say, though should think it very doubtful. I have heard an instance of a white Robin building its nest for several successive years on the same spot in an old wood-shed. This

was unquestionably the same bird, and its plumage remained unaltered.

Another point still more curious is: Why are some families of birds effected, as a rule, more than others? Cases among the *Fringillidae*, *Tetraonidae*, and *Anatidae*, are of comparatively frequent occurrence, while among such large families as the *Sylviidae*, *Tyrannidae*, and *Scolopacidae*, we hear of but occasional examples. I will not express an opinion as to the truth of this problem, but leave it for more experienced heads to ponder over.

Another abnormal state (Melanism), in which our birds have been found, is of exceedingly rare occurrence, and but five species have been recorded on my list:—*Turdus migratorius*, *Colaptes auratus*, *Melanerpes erythrocephalus*, *Ortyx Virginianus*, and *Uria grylle*.

Doubtless many other examples of albinism, and perhaps a few cases of melanism may be added to this list.

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NOTES ON BIRDS FOUND BREEDING ON COBB'S ISLAND, VA.  
BETWEEN MAY 25<sup>TH</sup> AND MAY 29<sup>TH</sup>. 1875.

BY H. B. BAILEY.

During so short a visit to any place the birds noticed must necessarily be only a small proportion of those actually occurring. The following observations relate principally to those breeding on the above named and two adjacent islands. Cobb's Island is situated off Cape Charles, Virginia, and is about seven miles long by half a mile wide and being little more than a sand bar, is well adapted as a breeding resort for the various species of Terns and Waders found there. The coast side of the island is a magnificent beach which gradually rises up to an elevation of about fifteen feet from sea level in the centre, on which there is a rank growth of grass, while on the other side a long marsh extends in some places as far as half or three quarters of a mile from the main island at low water, but is nearly overflowed at high tide. In addition to the species enumerated below there were large numbers of shore birds migrating north, and several sportsmen were enjoying such shooting as we never get on the

New England coast, and doubtless nearly all the species of Sandpipers, Plovers, Godwits, and Curlew, occur here both during the spring and autumn migrations. In the fall and winter the sea-fowl shooting is such as one would expect, and to judge from the sportsmen's stories this is a perfect paradise for kindred spirits. I must add my complaint to that of others against the wholesale robbery of the eggs of nearly all species nesting here. Numbers of eggers lay off the island and make the rounds daily until procuring a cargo they leave to be followed by others. The birds are robbed so often that they must eventually leave for other breeding localities. Ovaries of many specimens examined by me were sadly depleted.

*Dendroica discolor*, Bd. Prairie Warbler. A male was heard singing in a swamp on Hog Island, and reminded me forcibly of our own New England collecting.

*Hirundo horreorum*, Bart. Barn Swallow. Several pairs were breeding in the out-buildings connected with the settlement on Cobb's Island.

*Ammodromus maritimus*, Sw. Seaside Finch. Although not common it was the most abundant land bird on the island, probably twenty pairs breeding there. I succeeded in finding three nests, two of which contained four eggs each, and one three, all fresh. They were placed in clumps of grass, on the high ridge, in the centre of the island, very carefully concealed, and quite neatly built of grasses, lined with fine pieces of the same; one of them was also arched over.

*Agelaius phoeniceus*, Vieill. Red-winged Blackbird. One pair raised a brood in a grape-vine arbor near the house and picked up crumbs from the piazza, reminding one of our common "Chippy" in sociability.

*Corvus Americanus*, Aud. Common Crow. Several were seen and heard on Hog Island, sometimes in company with the Fish Crow.

*Corvus ossifragus*, Wilson. Fish Crow. This species is quite common on Hog and Mockhorn Islands, and I was fortunate enough to obtain a set of five eggs, nearly fresh. These are very much smaller than those of our common species, there being as much difference in size as there is between those of the Raven and the Common Crow. The nest cannot be distinguished from that of the latter, and was about twenty-five feet from the ground, in a large pine, in which was also a nest of the Fish Hawk. The birds kept up a continual croaking while we were disturbing their treasures.

*Tyrannus Carolinensis*, Temm. King Bird. Several pairs had young nearly full grown.

*Pandion haliaetus*, Cuv. Fish Hawk. About fifty pairs were breeding on Hog Island, which is about ten miles from Cobb's, and is a very favorable locality, as it is covered with a dense growth of pines which have, however, been killed off at one end of the island by the sand being blown up year after year, and in these dead trees are the Fish Hawks nests, some fifteen feet from the ground, and some less. Two were found placed on the ground, although it was evident they were once in a tree, above ground, thus showing the reluctance this species has of leaving its chosen site. Some few pair had nests in live trees in the centre of the island, which were unattainable by me. The nests are very large, some of them would fill a tip-cart, and the birds seem to add to them year after year; those on the ground being evidently the oldest, and these were fully six feet across. The eggs were all nearly hatched, and in only one case did I find young, but they are usually laid by the 15th of April. Several pairs were also found on Mockhorn Island, in the Herony.

*Ægialitis wilsonius*, Cass. Wilson's Plover. "Stuttering Bird" of the inhabitants. This is comparatively a rare bird on the island, only about a dozen pairs breeding, and their eggs are very hard to find, being laid on the dry sand above high water mark, in a slight depression, among shells, and usually in the localities chosen by the Least Terns, and were in all cases three in number. The birds were very shy and seldom seen about their nests.

*Hæmatopus palliatus*, Temm. Oyster Catcher. "Rain Crow." This species was formerly quite common during the breeding season, but it has been driven away until now there are not more than half a dozen pairs on the whole island, and these were distributed over its entire length. Their nests were more than half a mile apart, and all of them had been robbed by the eggers excepting two, both of which contained three eggs, and I believe this to be their full complement. The nests are slight hollows in the dry sand, lined with small bits of shells, and are quite easily found. The eggs are much sought for by the inhabitants, owing to their size and delicious flavor, which latter quality I cannot testify to, as none were eaten while I was there; the few obtained found their way into my collection. The birds are never seen in the vicinity of the nests during the heat of the day, and are very shy at all times.

*Totanus semipalmatus*, Temm. Willet. Breeds in large numbers on the island, and are not molested while nesting, as they are left for the fall shooting, and this is the only species that can enjoy the privilege of breeding in peace, the eggs of all the others are subjected to all the mysteries of the cuisine. Their usual nesting place is on the higher parts of the island, among the grass, where they conceal their nests so effectually that it is only by flushing the female directly from the eggs that the nests can be discovered. In this situation

they are very slight structures, being depressions in clumps of grass, lined with finer grasses. The marshes are also favorite localities for breeding, and in this case the nests are more elaborate, being built up from the ground, which is wet at high tide. The eggs were in all cases four, very slightly incubated.

*Ardea herodias*, Linn. Great Blue Heron. There were two Heronries on Mockhorn Island, one of which contained some fifty nests; as they were in a swamp I did not attempt to reach them, but presume they had young. The other breeding place was on a neck of land that ran out from the main island, and here the nests were all made in low, dead trees, and were immense affairs. Almost all contained three or four young, nearly grown; some few contained fresh eggs, and others had them with large embryos. Whether these were second layings or not I am unable to say, but they undoubtedly were, as these birds are seldom disturbed.

*Ardea candidissima*, Gm. Little White Egret. One bird was seen and a few may still breed in the Heronry, but it is exceedingly rare now where it was common a few years since, which may be accounted for by their being continually shot for the sake of their feathers.

*Ardea virescens*, Linn. Green Heron. Several pairs were breeding, and all had fresh eggs, which were five in number, and most zealously watched by their parents.

*Rat tus longirostris* Bodd. Clapper Rail. Very common, and breeds in immense numbers all through the marshes and high grass on the main land. Although seldom seen the number of nests found testify to their abundance. These are carefully concealed, but are betrayed by a habit the bird has of bending the surrounding grass over the nest, thus forming a complete cone which can be seen at a considerable distance. These usually contained eight or ten eggs, but one that I found had fourteen, while others found nests with over twenty, but it is possible that these were the products of two females. Although immense numbers were being brought in every day by the eggers, nearly all of the nests found by me contained eggs nearly hatched, and I think by the first of May their full complement must be laid.

*Larus atricilla*, Linn. Laughing Gull. This species is the most abundant on the island and breeds in large colonies on every suitable marsh. When one of their breeding places is approached the noise is perfectly deafening and their eggs can be picked up by the bushel. Never more than three in a nest were found but the birds are so frequently disturbed by eggers that it is doubtful if they ever succeed in raising a full brood. Residents inform me that as late as August fresh eggs may be taken.

*Sterna anglica*, Mont. Marsh Tern. A few pairs were seen, but they had not commenced to breed during my visit; they nest here sparingly, however, as I had a set of their eggs sent me which were laid the last of June.

*Sterna regia*, Gamb. Royal Tern. Called "Gannets" by the natives. They have always been found breeding on a small sand-bar off the island, but it was washed away during the winter of '74-5, and although the birds were flying around they had not chosen any spot on which to breed, but they undoubtedly did later.

*Sterna hirundo*, Auct. Common Tern. "Big Strikers" of the islanders. Very common; their principal breeding grounds are on the marshes, where the drifts deposited by the early spring tides are thickly covered with their nests. These are merely formed of dried reeds, lined with finer pieces of the same. A few pairs are also found in the colonies of Least Terns, in which case they make no nest, but deposit their eggs in a slight depression in the sand. These are always three, and were all fresh, having been robbed by the eggers from the time of their laying about the middle of May. The Roseate Tern (*Sterna Dougalli*), doubtless breeds here also, but I was unable to detect it.

*Sterna superciliaris*, var. *antillarum*, Coues. Least Tern. "Little Striker." Colonies of about fifty pairs each of this species extend the whole length of the island at about a distance of one mile apart. The eggs were just laid and were all nearly fresh; two being the usual number in a nest, and in no case did I find over three. These were laid in a depression in the sand among broken shells and are very difficult to find owing to their similarity to the surroundings.

*Rhynchos nigra*, Linn. Black Skimmer. Called "Sea Crow." The birds were in flocks of twenty or thirty, during my stay, as they do not breed until the last of June. I had several sets of the eggs sent me and the sender states that they breed in colonies on the sand and always lay three in a nest.

BULLETIN  
OF THE  
NUTTALL ORNITHOLOGICAL CLUB.

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Vol. I.

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THE NUTTALL ORNITHOLOGICAL CLUB.\*

IN the autumn of 1871 two young ornithologists of Cambridge formed the plan of meeting weekly to "read Audubon," and to compare views and notes respecting various ornithological questions in which all were interested. After a few weeks they were joined by other "kindred spirits," who continued to meet each week for the comparison of notes and for study. For the first two years the meetings were wholly informal. In 1873 an organization was effected, under the name of the "NUTTALL ORNITHOLOGICAL CLUB." This name was selected as being a very proper one, from the fact that the "local habitation" of the Club was amid the scenes made classic by Nuttall, whose home for many years was here, and whose "Manual of the Ornithology of the United States and of Canada" abounds in allusions to localities within the precincts of Cambridge. A Constitution and By-Laws were drawn up and adopted, under which officers were duly chosen. The membership of the Club soon embraced all the younger ornithologists of the vicinity, several of whom had already gathered collections numbering hundreds, and in some cases thousands, of specimens each, and who were from time to time acquiring facts of no little scientific value.

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\* The subjoined historical sketch of the NUTTALL ORNITHOLOGICAL CLUB has been prepared for the purpose of answering some very natural questions that may arise in the minds of the readers of its BULLETIN, namely, What is the Nuttall Ornithological Club? what has it done? and what are its aims? — EDS.

The following year (1874) the project of publishing a Bulletin was agitated, but it was finally thought that the time for such an undertaking had not yet arrived. The *American Sportsman* was then adopted as a temporary medium of publication, and during the following year quite a number of the more important communications read before the Club were published in its columns.\* At the same time

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\* As a matter of permanent record of the work of the Club prior to the inception of the Bulletin, the following list of the principal articles read before the Club, and published in the *American Sportsman* and elsewhere, is here appended.

1. A New Species of North American Warbler (*Helminthophaga leucobronchialis*). By Wm. Brewster. Amer. Sports., Vol. V, p. 33, Oct. 17, 1874. [The first description of the species. See also Bull. Nutt. Orn. Club, Vol. I. No. 1, pp. 1, 2, and Plate I.]
2. A New Species of Finch (*Ammodromus melanoleucus*) from Florida. By C. J. Maynard. Amer. Sports., Vol. V, p. 248, Jan. 16, 1875. [Collected in the marshes of Salt Lake, Florida, by Mr. C. J. Maynard. This is the form of *Ammodromus* previously (Bull. Essex Inst., V, p. 198, Dec., 1873) described by Mr. R. Ridgway as *A. maritimus* var. *nigrescens*.]
3. A New Bird (*Sterna regia*) to Massachusetts. By William Brewster. Amer. Sports., Vol. V, p. 249, Jan. 16, 1875. [The record of the capture of two specimens, ♂ and ♀, at Nantucket Island, July 1, 1874, by Messrs. C. J. Maynard and Wm. Brewster. The female bore marks of having just laid. Both specimens were in somewhat peculiar plumage.]
4. Some Notes on a New Species of North American Tern. By Wm. Brewster. Amer. Sports., Vol. V, p. 249, Jan. 16, 1875. [Notice of a specimen of *Sterna portlandica*, Ridgway, collected on Muskeget Island, Mass., July 1, 1870.]
5. The Loggerhead Shrike in Massachusetts. By C. J. Maynard. Amer. Sports., Vol. V, p. 313, Feb. 13, 1875. [Record of the capture of a specimen of *Collurio ludovicianus* at Newtonville, Mass.]
6. Occurrence of the Fork-tailed Gull (*Xema sabini*) in Massachusetts. By Wm. Brewster. Amer. Sports., Vol. V, p. 370. [Record of a specimen (the first taken in New England and the third taken in the United States) captured in Boston Harbor, Sept. 27, 1874.]
7. The Nidification of the Blue Crow (*Gymnokitta cyanocephala*) and of the Gray-headed Snowbird (*Junco caniceps*). By Charles E. Aiken (Cor. Memb.). Amer. Sports., Vol. V, p. 370, March 13, 1875. [First description of the nests and eggs of these two species.]
8. Occurrence of the Mocking-Bird in Massachusetts. By E. C. Greenwood. Amer. Sports., Vol. V, p. 370, March 13, 1875. [Record of the capture of specimens of *Mimus polyglottus* in Newtonville, with a notice, by Mr. Ruthven Deane, of others taken elsewhere in Eastern Massachusetts.]
9. Habits of the Mourning Warbler. By Wm. Brewster. Rod and Gun

the roll of membership was increased by the election, as "Corresponding Members," of many of the younger ornithologists residing in other parts of the United States.

During the winter of 1875 and 1876 the interest in the Club seemed to have somewhat abated, doubtless in great part owing to the removal of several of its more active members to distant parts of the country, the regular attendance at the meetings becoming mainly limited to the few original founders of the Club. In March, 1876, it was decided to make an effort to increase the resident membership, and to endeavor to awaken anew the interest of all the members, both resident and corresponding. Hence the matter of publishing a Bulletin was again seriously considered. The question being decided affirmatively, the first number of the Bulletin was issued May 6, 1876, consisting of twenty-eight octavo pages and a colored plate. Heretofore the Club had pursued the policy of excluding professional ornithologists, rather, however, from a feeling of modesty than from any motive of exclusiveness. Realizing, however, that in order to establish the Bulletin on a firm basis, it was necessary to secure all pos-

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(new series of Amer. Sports.), Vol. VI, p. 50. [Based on observations made at Lake Umbagog, Me.]

10. Ornithological Notes from Portland, Me. By N. C. Brown (Cor. Memb.). Rod and Gun, Vol. VI, p. 65, May 8, 1875. [On the malformation of the bill in a specimen of *Plectrophanes nivalis*, and a record of the capture of *Passerculus princeps* at Portland, and of *Herodias egretta* in Scarborough, Me.]

11. The Burrowing Owl in Massachusetts. By Ruthven Deane. Rod and Gun, Vol. VI, p. 97, May 15, 1875. [Record of the capture of a specimen of *Speotyto cunicularia* var. *hypogaea* at Newburyport, Mass.]

12. Notes on the Habits of Certain Thrushes. By C. C. Abbott, M. D. (Cor. Mem.). Rod and Gun, Vol. VI, p. 86, May 8, 1875. [Notes on *Turdus Pallasi*, *T. swainsoni*, and *T. fusciceps*, as observed at Trenton, N. J.]

13. Partial List of the Summer Birds of Kanawha County, West Virginia; with Annotations. By W. D. Scott. Proc. Bost. Soc. Nat. Hist., Vol. XV, pp. 219-230, Oct. 1872. [A list of eighty-six species, with notes.]

14. Some Observations on the Birds of Ritchie County, West Virginia. By Wm. Brewster. Ann. Lyc. Nat. Hist. N. Y., Vol. XI, pp. 129-146, June, 1875. [An annotated list of one hundred species.]

15. Some Additional Light on the so-called *Sterna portlandica*, Ridgway. By Wm. Brewster. Ann. Lyc. Nat. Hist. N. Y., Vol. XI, pp. 201-207, Nov. 1875. [Its probable identity with *S. macrura* maintained.]

sible aid in its support, and feeling also that the Club had given some token of its earnestness, the leading ornithologists of the United States were invited to co-operate with the Club as either resident or corresponding members. Upon their election the resident members of the Club were gratified to receive from the gentlemen so elected not only letters accepting membership, but containing expressions of the warmest interest in the objects and prosperity of the Club, together with offers of hearty assistance in the maintenance of the Bulletin as a permanent journal of Ornithology.

With the present number the Bulletin becomes somewhat changed in its character, and greatly improved in typographical appearance. It is hereafter intended not only to present in each number original communications, but to give short notices of recent ornithological publications, especially such as relate to American Ornithology, and also a variety of notes and general miscellany. With the promises of literary support already received (see Prospectus), the Club publishes its second number of the Bulletin, feeling that its establishment as a journal creditable to American ornithologists is assured.

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#### REGARDING BUTEO VULGARIS IN NORTH AMERICA.

BY ROBERT RIDGWAY.

AFTER having been repeatedly given as a North American species, in consequence of the erroneous identification of some one or other of its strictly American congeners, this common European bird has at last a claim to be included in our fauna. Such at least is the case according to the incontrovertible evidence presented in Mr. Maynard's article in the last number of this Bulletin (Vol. I. No. 1, pp. 2-6). The specimen upon which these remarks are based is a veritable *B. vulgaris*, as we are fully satisfied from a personal inspection; but, instead of concurring in the statement that "three specimens of the Common Buzzard have actually been taken within our limits," we believe, on the contrary, that only the one in question has been procured this side of the Atlantic, so far as the

records show; while there is a reasonable cause for suspecting that even this may have come into the possession of the collector in some manner forgotten by him, and that his circumstantial account of its capture refers to some other specimen. Mr. Maynard bases his belief that this species "will be found of regular occurrence in the Northwest" on the supposition that the birds which Audubon figured and described under the name of "*Falco buteo*," is of this species. That this opinion is erroneous, and that the plate and description cited refer wholly to *B. swainsoni* and the young of the Western Red-tail (*B. borealis calurus*), we hold to be demonstrable.

It is very evident that Audubon does not describe the same bird which he figures, his plate representing clearly the adult female of *B. swainsoni*, in the normal or white-throated dress,\* while the description is as certainly taken from a specimen of a species belonging to the other group.† In our assertion that the plate referred to is a representation of the adult female of *B. swainsoni*, we can cite several points in proof: the well-defined white throat-patch, the uniform brown pectoral area, and the numerous bars on the tail, — in fact, every detail of coloration. In the second place, Audubon expressly states at the beginning of his account that the specimen from which the figure was taken "was shot by Mr. Townsend on a rock near the Columbia River"; it must therefore have been one of the specimens which Nuttall subsequently described as "*Buteo montana*" ("White-throated Buzzard"), and, referring to his work (p. 112, ed. of 1840), we find that such is indeed the case, since he cites Audubon's plate in the following manner: "*F. Buteo*, Aud., pl. 372 [female]." The case is made still plainer by the text itself, the whole of which relates, unmistakably and very clearly, to *B. swainsoni*.‡ The wide discrepancies between the description which follows Audubon's plate and the bird represented in the plate itself can only be explained upon the supposition that the description was penned subsequently from a different specimen, — a procedure well known to have been common with that distinguished author. No one familiar with the different phases of

\* See Pr. Ac. Nat. Sci. Philad., March 30, 1875, p. 89.

† *Ibid.*, p. 105.

‡ Mr. Cassin identified Nuttall's bird as the light-colored phase of the Western Red-tail, to which throughout his writings he gave the name "*Buteo montanus*, Nutt." The error was first corrected in Coues's "Key to North American Birds," 1872, p. 217.

*B. swainsoni* and *B. vulgaris*, would think of referring the plate to the latter, but would instantly recognize in it the adult female of the former in the ordinary light phase of plumage.\* The identification of the bird described is not so readily made, but we will attempt it by a careful analysis of the text.

The first two paragraphs of the description referred to may as well be passed over, since they are only an enumeration of generic characters; the third paragraph also contains little to the point, save the following clause: "Fourth quill longest, the third next, the fifth very little shorter, the second longer than the fifth, the first and seventh about equal; *first four abruptly cut on the inner web.*"† Now as regards the coloration: "The general color of the upper parts is chocolate-brown. The quills are of the general color externally, but the primaries are black toward the tip; a great part of the inner web, with the shaft, white, and barred with brownish-black, the bars more extended on the secondaries.‡ The tail is marked with about ten dusky bars on a reddish-brown ground, tinged with gray, the last dark bar broader, the tips paler.§ The eyelids are whitish, as is the throat, which is longitudinally streaked with dusky.|| The rest of the lower parts are yellowish

\* Of the distinctive characters of these two species, only one of those enumerated by Mr. Maynard holds good; the radical difference between them in the emargination of the primaries being the one referred to. As to the feet, they are more slender in *B. vulgaris* than in *B. swainsoni*, while in the latter the under wing-coverts are often pure white,—by no means always rufous. [For diagnosis covering all the known variations of plumage and proportions in this species, based on the careful examination and comparison of more than a hundred specimens, the reader is referred to the Proceedings of the Academy of Natural Sciences of Philadelphia, March 30, 1875, pp. 92, 104.]

† In *B. vulgaris* the third, fourth, or fifth quill is longest, usually the third and fourth, which are generally equal; the relative proportion of the quills is the same in *B. borealis* (including all its forms), and in *B. swainsoni*; the third or fourth, usually the third, is longest; hence on account of its variability this character is not of much value.

‡ So far equally applicable to *B. vulgaris* and the young of *B. borealis*.

§ In *B. vulgaris* the tail is grayish-rather than reddish-brown, seldom with a tinge of red; the bars are always badly defined, excepting on the middle feathers, and become more or less obsolete toward the base,—those which are distinct being of an indefinite number, but usually *about* ten. The young of *B. borealis* frequently has the tail decidedly reddish, and the bars almost always well-defined, and nine or ten in number.

|| Will answer for either *B. vulgaris* or *B. borealis*.

or brownish-white barred with brown.\* The lower wing-coverts are white, barred or spotted with dusky; the white of the inner webs of the primaries forms a conspicuous patch, contrasted with the grayish black of their terminal portion.†

"Length to end of tail, 23 inches; wing, from flexure, 17; tail, 10 $\frac{1}{2}$ ; bill along the ridge, 1 $\frac{8}{9}$ ; along the edge of the upper mandible, 1 $\frac{7}{9}$ ; tarsus, 3 $\frac{1}{9}$ ; hind toe, 1, its claw, 1 $\frac{1}{9}$ ; middle toe, 1 $\frac{1}{9}$ , its claw, 1 $\frac{1}{9}$ ."‡

From the preceding analysis of the "*Falco buteo*" of Audubon, we can only conclude that his description was taken from a young example of *Buteo borealis calurus*, which Mr. Townsend may have obtained somewhere in the Northwest. As an exceedingly pertinent fact in this connection, it may be observed that Audubon nowhere describes the young plumage of *B. borealis*, nor does he figure it. He was, therefore, apparently unacquainted with the species in this stage, and might readily have taken it for a different species, and the *B. vulgaris* would be the one most likely to suggest itself, especially in view of the circumstance that it had been already given as a North American bird by Swainson and Richardson.

So far as the text goes, there is a probability of reference to *B. swainsoni* only in the last sentence of the paragraph following the description. This reads as follows: "The colors, however, vary, and in some the upper parts are deep brown, the lower reddish- or brownish-white, barred with reddish-brown."

To those interested in this subject, descriptions of the various phases of plumage in *Buteo borealis* may not be unacceptable in this connection: we accordingly present the following, taken from the series contained in the National Museum:—

\* This suits the young of *B. borealis* very well; in *B. vulgaris* the markings of the lower parts are exceedingly variable, but they are for the most part rather *longitudinal* than transverse, unless the dusky color predominates, in which case there are rather well-defined bars of white on the abdomen.

† Characters common to *B. vulgaris* and *B. borealis*, and often not very different in *B. swainsoni*.

‡ In a series of six specimens of *B. vulgaris*, the maximum length of wing is 16.60, the minimum being 15.50; the tail, 8.80–10.00; culmen (including cere), 1.20–1.30; tarsus, 3.00–3.50; hind toe, .70–.85, its claw, .90–.95; middle toe, 1.40–1.55, its claw, .75–.78. It will thus be observed that the measurements of Aububon's bird are decidedly too great for *B. vulgaris*, while they in every way accord with those of an average specimen of *B. borealis*.

**Buteo vulgaris:** Sp. Ch. — Wing, 15.50–16.60 ; tail, 8.80–10.00 ; culmen, .85–.95 ; tarsus, 3.00–3.50 ; middle toe, 1.40–1.55. Four outer primaries with inner webs emarginated ; third, fourth, or fifth quill longest (usually the third and fourth) ; first shorter than seventh, eighth, or ninth (usually intermediate between seventh and eighth). Tail even or very slightly rounded. Tail brownish, in some examples touched with rufous, sometimes with a narrow whitish tip, crossed by an indefinite number (about 10–13) bands of dusky, more or less indistinct basally ; the inner webs lighter than the outer, sometimes whitish, the bars more distinct. Inner webs of the primaries usually plain white anterior to their emargination, in marked contrast with their dusky tips, the white sometimes immaculate, oftener with indications of bars, especially next the shaft, and rarely broken by a sprinkling or clouding of grayish ; outer webs grayish-brown, with indistinct darker bars, which become gradually obsolete towards the ends of the quills. Plumage generally a mixture of sooty-brown and white, in varying proportionate amount, in some specimens with occasional touches of rufous.

In this species there appear to be no well-marked growth stages, nor does there seem to be much if any difference in plumage between the sexes ; on the other hand, the range of individual variation is very great, fully equalling that of either *B. borealis* or *B. swainsoni*. It is believed that the specimens contained in the National Museum illustrate the main variations, and as no two of these examples are alike, we will describe each one in detail :—

#### ADULT MALES.

*Light Phase* (No. 56,105, Germany). — Above grayish brown, broken by whitish edges of the feathers, these most distinct on the scapulars and middle wing-coverts ; lesser wing-coverts much spotted with deep buff, and scapulars irregularly marked with the same ; rump distinctly spotted with deeper buff ; remiges plain brown, very indistinctly banded with darker, the primaries with a decided hoary cast, the secondaries and inner primaries narrowly tipped with whitish. Outer upper tail-coverts white, with a few brownish spots. Tail grayish-brown, of the same shade as the secondaries, the inner webs whitish with well-defined bars towards their ends, the outer webs with just appreciably darker narrow bands. Head, neck, and lower parts white ; crown and nape streaked with grayish-brown, the streaks widest on the crown ; a rictal stripe of blended streaks, and a narrower and less distinct longitudinal series of streaks on the middle of the throat ; jugulum with a wide collar of large cordate or broadly ovate spots of brown, with black shafts, the patch interrupted in the middle portion ; abdomen with irregular bars and transverse spots of brown, and flanks with larger and more irregular spots of the same ; other por-

tions of the lower surface immaculate. Axillars immaculate pure white ; lining of the wing pale cream-color, with longitudinal tear-shaped markings or streaks of rusty brown ; under primary coverts with a large patch of grayish-brown, formed by the terminal half or more of each feather being of this color ; inner webs of the primaries immaculate white anterior to their emargination. Wing, 15.70 ; tail, 9.00.

This specimen presents a very close general resemblance to lighter colored examples of the young of *B. borealis*, the only obvious difference being the cluster of spots on the jugulum (which in *borealis* is plain white), the obsolete character of the bars on the tail, and the more slender tarsi.

*Dark Phase* (No. 9,689, Europe).—Prevailing color clove-brown, or sooty grayish-brown, this entirely unbroken on the upper surface, but beneath slightly variegated with very narrow whitish streaks on the cheeks and throat, irregular bars and spots of the same on the abdomen ; tibial feathers with rusty tips ; crissum grayish-white with brownish spots and bars ; white of under surface of primaries broken by a confused sprinkling or mottling of grayish ; lining of the wing sooty-brown, irregularly spotted with buff and rufous. Tail grayish-brown, considerably lighter than the wings, narrowly tipped with dirty whitish, and crossed by narrow bands of darker brown, the last of which is much the widest (about 1.00 in breadth), the others decreasing in distinctness toward the base. Darker bars on the remiges almost entirely obliterated. Wing, 16.40 ; tail, 9.00.

This example is almost identical in coloration with the dark phase of *Buteo swinhonis*,\* the only obvious difference being the white bars and spots on the abdomen.

#### YOUNG MALE.

*Light Phase, Albinescent?* (No. 56,104, Germany).—Prevailing color pure white ; head, neck, and lower parts immaculate, except a few narrow streaks on the forehead and below the auriculars, a few scattered streaks on the side of the breast, and a slight spotting on the sides ; occiput and nape more distinctly streaked. Lesser wing-coverts almost immaculate pure white, and middle coverts so broadly bordered with white that this color prevails ; greater coverts tipped with white. Back dark brown, the feathers narrowly bordered with white ; scapulars with broader white margins. Entire rump and upper tail-coverts immaculate creamy white. Remiges and rectrices as usual, but the middle pair of the latter with their inner webs buffy white, with broken bars and spots of grayish-brown. Wing, 15.50 ; tail, 9.75.

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\* See Pr. Ac. Nat. Sci. Philad., March 30, 1875, p. 115.

This plumage is so well represented in the upper figure of Plate XXXIII of Naumann's *Vögel Deutschlands*, that the illustration must have been taken from an exceedingly similar specimen; the figure, however, represents a slightly darker bird, with a few spots on the breast and lesser wing-coverts. It is also very much like the young of *Buteo borealis krideri*, as represented in Plate V, Pr. Ac. Nat. Sci. Philad., 1873, so far as regards the relative amount of brown and white; but the markings are quite different, especially on the remiges and rectrices.

#### FEMALES.

*Light Phase, Adult* (No. 56,107, Germany). — Above grayish-brown, quite light on the tertials, some of the wing-coverts, and scapulars, which have still lighter (nearly white) borders; all the feathers bordered with a paler, grayer shade, and showing distinct black shafts; upper tail-coverts brown, narrowly tipped with soiled pale buff, the outer webs with a slight mottling of ochraceous. Tail grayish-brown narrowly tipped with dull buffy white, and crossed with nine or ten narrow bands of dusky, these mostly indistinct, but well defined on the inner webs of the intermediæ where the ground color is lighter and mixed with ochraceous. Head, neck, and breast light brown, the feathers edged with whitish, causing a slight streaked appearance; flanks uniform brown, the feathers with narrow whitish tips; abdomen white, heavily spotted with dark brown; *this abdominal belt separated from the lighter and more uniform brown jugular patch by a somewhat crescentic pectoral belt of white nearly free from markings*; tibiae nearly uniform brown, lighter in front and on the inside, the longer plumes tipped with light fulvous; crissum immaculate white. Lining of the wing mixed rusty-rufous, buff and brown. Wing, 16.00; tail, 9.30.

This specimen presents a curious and very strong resemblance to the adult *Archibuteo lagopus* in the coloration of the lower parts, not only in the colors and markings but in the peculiar pattern.

*Dark Phase, Adult?* (No. 56,109, Germany). — General color sooty-brown, this darkest on the head, neck, back, and breast (which have a decided purple reflection in certain lights), the general duskiness relieved only by rusty edges to the feathers; scapulars "spattered" or blotched with pale cinnamon-rufous; rump and upper tail-coverts uniform sooty-brown, the latter with very narrow and indistinct rusty tips. Tail grayish-brown, with narrow bands, of which about eight or nine are distinct, the inner webs of the middle pair much tinged with rufous. Abdomen marked with broad bars, or bands of dark brown and buffy-white, of about equal width; the white bars most distinct and regular anteriorly, thereby throwing into greater relief the dusky pectoral patch, which has a convex poste-

rior outline ; flanks and tibiae nearly uniform brown ; crissum white, with very regular wide bars of brown ; lining of the wing dusky, spotted with rusty. Wing, 16.50 ; tail, 9.50.

In the coloration of its lower parts, this example calls to mind certain specimens of *Pernis apivorus* which we remember to have seen. A somewhat similar individual is represented in the lower figure of Plate XXXII of Naumann's *Vogel Deutschlands*.

*Dark Phase, Young?* (No. 23,407, Hungary).—Lower parts white, tinged in places with ochraceous, the tibiae uniform dark brown on the outside, spotted brown and ochraceous on the inner sides. Throat, jugulum, breast, and abdomen marked with longitudinal stripes of dark brown, those on the throat narrow and linear ; on the sides of the breast broadly ovate and blended, on the abdomen tear-shaped ; crissum white, with a few scattered spots of brown. Tail grayish-brown, tipped with bright ochraceous, and crossed by very indistinct darker bands. Upper parts in general nearly uniform dark brown, the scapulars and lesser wing-coverts tinged with rusty. Wing, 16.40 ; tail, 9.75.

*List of Specimens in U. S. National Museum.*

Nat. Mus. Number.	Sex and Age.	Original Number.	Locality.	Date.	Donor.
9,689	♂ ad.	....	Europe	....	S. F. Baird.
23,407	♀ jud.	3,407	Hungary	1860	Count Lamar.
56,104	♂ jud.	53	Germany	....	H. Schlüter.
56,105	♂ ad.	51	"	....	"
56,107	♀ ad.	49	"	....	"
56,109	♀ ad.	48	"	....	"

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ADDITIONS TO THE AVI-FAUNA OF ILLINOIS, WITH  
NOTES ON OTHER SPECIES OF ILLINOIS BIRDS.

BY E. W. NELSON.

SINCE the publication of Mr. R. Ridgway's "Catalogue of the Birds ascertained to occur in Illinois,"\* several species not named therein have been taken in the State, and many interesting notes respecting other little-known species have been gathered. Only the most important of the latter will be noticed in the present paper.

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\* Ann. N. Y. Lyc., Vol. X, Jan., 1874.

All matter enclosed between quotation-marks is from the manuscript notes of Mr. Ridgway, who has kindly furnished them for use in the present connection. The remainder, with a few exceptions (where due credit is given), are from my own observations. The first list comprises the fifteen species new to the State.

1. *Myiadestes townsendi*, Cab. TOWNSEND'S SOLITAIRE.—A fine specimen of this bird was obtained December 16, 1875, by Mr. Charles Douglas at Waukegan, Illinois. The specimen is considerably darker than one in my collection from Utah, collected about the same time of year.

2. *Coturniculus lecontei*, Bon. LECONTE'S BUNTING.—A single specimen of this rare bird was obtained by the writer at Riverdale, Illinois, May 13, 1875. It was flushed from a slight depression in the open prairie near the Calumet River, where the moisture had caused an early growth of coarse grass, about three inches in height. After darting off in an erratic course for a few rods, it suddenly turned, and alighting ran rapidly through the grass, from which it was with difficulty started again and secured.

3. *Ammodromus caudacutus* var. *nelsoni*, Allen. WESTERN SHORT-TAILED FINCH.—This variety of the Sharp-tailed Finch was first obtained September 17, 1874, in the Calumet Marsh, and described by Mr. J. A. Allen in the Proceedings of the Boston Society of Natural History (December, 1874), with a few notes regarding its habits. Since then I have learned of its capture at several widely separated localities in Northern Illinois, it appearing to frequent all suitable situations. The 12th of June, 1875, I saw several of these birds in the dense grass bordering Calumet Lake, where they were undoubtedly breeding. They were very numerous November 10, 1875, in the wild rice bordering Grass Lake, in Lake County, Illinois. A sharp frost that night caused them to leave so suddenly that the next afternoon not one was to be found.

4. *Chordeiles popetue* var. *henryi*, Cassin. WESTERN NIGHT-HAWK.—Two specimens of this variety were obtained by my friend Mr. F. L. Rice near Waukegan, Illinois, July, 1875. In the same vicinity I have obtained several specimens of this variety the present season. In comparing specimens from Illinois with typical specimens of *henryi* in my collection from the Rocky Mountains, I find they agree in all the characteristics upon which the variety is based.

5. *Buteo borealis* var. *calurus*, Cassin. BLACK RED-TAIL.—In my collection is a fine adult specimen of this variety which was captured near Chicago in April, 1873, by my friend, Mr. Charles Smith.

6. *Ardea rufa*, Bodd. REDDISH EGRET.—This species was quite common in the vicinity of Cairo during the last week of August, 1875. The unusually high water of that season caused a much larger number of herons to appear along the rivers in this vicinity than usual. Although *Ardea*

*egretta* and *A. carulea* — both of which species were seen by the hundred daily — were quite unsuspicious, *A. rufa* was so exceedingly shy that it was almost impossible to get within gunshot of one.

7. **Branta canadensis** var. **leucoparia**, Cassin. **WHITE-COLLARED GOOSE**. — Specimens of this variety are frequently taken during their migrations.

8. **Bucephala islandica**, Baird. **BARROW'S GOLDEN-EYE**. — "Obtained in December, 1874, at Mt. Carmel, by Professor F. Stein, C. E., in charge of the improvements of the Wabash River." Also occurs on Lake Michigan in winter.

9. **Somateria mollissima**, Leach. **EIDER DUCK**. — An immature specimen was shot near Chicago in December, 1874, and is now in my collection. Dr. H. B. Bannister of Evanston has seen other specimens taken near that place.

10. **Somateria spectabilis**, Leach. **KING EIDER**. — "An adult female, obtained at Chillicothe, on the Illinois River, in the winter of 1874, has been sent to the National Museum by W. H. Collins, Esq., of Detroit, Mich." Undoubtedly occurs on Lake Michigan.

11. **Cidemia perspicillata**, Kaup. **SURF DUCK**. — "A single specimen, an immature bird, was obtained at Mt. Carmel by Professor Stein in October, 1875. This is the first instance known to the writer of this species being obtained at any inland locality. Mr. E. W. Nelson, of Chicago, has, however, informed me of its recent capture on Lake Michigan, near that city." I have since learned that this species is common on the lake and adjacent waters.

12. **Stercorarius pomatorhinus**, L. **POMARINE JÄGER**. — From the description of a bird seen with a flock of gulls near Evanston, Ill., by F. L. Rice of that place, and the account of a strange gull occasionally seen by a sportsman who does considerable shooting on Lake Michigan, I am certain this species is a rare visitant during severe winters.

13. **Larus argentatus** var. **argentatus**. **HERRING GULL**. — Among a number of gulls obtained in the Chicago Harbor, March 27, 1876, was one specimen, an adult female, which has been pronounced by Dr. Coues to be a typical example of the European form (var. *argentatus*) of the Herring Gull. In this specimen the iris was hazel, while in several adult specimens of the common American form (var. *smithsonianus*) the iris was bright yellow.

14. **Larus leucopterus**, Fabr. **WHITE-WINGED GULL**. — A regular winter visitant to Lake Michigan. Very shy.

15. **Xema sabini**, Bonap. **SABINE'S GULL**. — While collecting along the shore of Lake Michigan, the 1st of April, 1873, I shot a specimen of this species in breeding plumage. Unfortunately it fell into the water just beyond my reach, and a gale from off shore soon drifted it out of sight.

The following species, although not new to the State, are still imperfectly known as residents of Illinois. The quotations, as in the preceding list, are from the notes of Mr. Ridgway.

1. *Protonotaria citrea*, *Baird*. PROTHONOTARY WARBLER.—Rare summer visitant to the northern portion of the State. Two specimens were taken near Chicago during the summer of 1875.
2. *Siurus ludovicianus*, *Bon.* LARGE-BILLED WATER WAGTAIL.—Quite abundant, and breeds in the northern portion of the State.
3. *Oporornis agilis*, *Baird*. CONNECTICUT WARBLER.—Contrary to the generally received statements, this species is as abundant during the fall as in the spring migrations. They were quite common the 1st of September, 1875, in the Calumet Marsh.
4. *Myiobius mitratus*, *Aud.* HOODED FLYCATCHING WARBLER.—A rare summer resident in the northern portion of the State. One specimen was taken May 10, 1875, near Chicago, and a second specimen near Waukegan, Ill., May 20, 1876.
5. *Vireo bellii*, *Aud.* BELL'S VIREO.—This species was abundant in the dense bushes bordering the ravines intersecting Fox Prairie, Richland County, Ill., August 9 to 15, 1875. They were exceedingly shy, and although several could be heard uttering their curious song at the same time, and repeated efforts were made to secure them, only two specimens were obtained. I have since examined a specimen of this species shot in the vicinity of Chicago, in June, 1875, and further search will doubtless reveal their presence throughout the State.
6. *Plectrophanes pictus*, *Swains.* PAINTED LARK BUNTING.—The last of March, 1875, near Calumet Lake, I found a flock containing about seventy-five individuals of this species. Their habits were quite similar to those of *P. lapponicus* while upon the ground, except that while the latter species preferred the wet portions of the prairie, the former were found only about the higher portions. When flushed they invariably uttered a sharp clicking note, rapidly repeated several times. When driven from their feeding-place by my approach, they would rise in a straggling flock, and after wheeling about once or twice, start off in a direct line, gradually rising higher, until they disappeared. After a short time their peculiar note would be heard, and the flock, darting down from a considerable height, would alight near the place from which they were driven. Although the flocks of *P. pictus* and *P. lapponicus* often became mingled while flying over the prairie, I did not see them alight together.
7. *Peuosa festivalis*, *Cab.* BACHMAN'S FINCH.—This species was quite common in the vicinity of Mt. Carmel in July, 1875.
8. *Buteo swainsoni*, *Bon.* SWAINSON'S BUZZARD.—In August, 1875, I obtained four fine specimens of this bird, an adult pair and two young, upon Fox Prairie. The young were shot from the tree on the border of

the prairie in which they were reared, the remains of the nest in which they were hatched being pointed out by a farmer living near.

9. *Tantalus loculator*, *Linn.* WOOD IBIS.—This species was very abundant in the vicinity of Mound City, on the Ohio, and Cape Girardeau, on the Mississippi, the last of August, 1875.

10. *Nyctherodius violaceus*, *Reich.* YELLOW-CROWNED NIGHT-HERON.—"In my 'Catalogue of the Birds ascertained to occur in Illinois' (p. 386), the Yellow-crowned Night-Heron is included as a 'summer visitor to the extreme southern portion of the State,' and in my later 'Catalogue of the Birds of the Lower Wabash Valley' it is given in the list of 'species found only in summer' (p. 26) as 'common ?' More recently, however, we have received information, in the shape of two fine adult specimens shot from their nests, accompanied by an account of their capture, which confirms the breeding of the species in considerable numbers as far up the river as Mt. Carmel. The locality where they were found is a portion of bottom-land known as 'Coffee-flat,' where a small colony was found nesting by Mr. Samuel Turner and my brother, John L. Ridgway, on the 6th of May, 1874. Two fine adult specimens in their breeding plumage were obtained, as were also a few eggs. One nest is described as situated in a white-oak tree about sixty feet from the ground, on a branch four inches in diameter, twelve feet from the trunk of the tree, and upon so small a limb that the eggs could not be obtained. The nest was composed of sticks, the outer ones about half an inch in diameter, the interior ones finer, and so loosely put together that the eggs could be plainly seen through the nest. There were four eggs, and another ready to be laid was taken from the parent bird. The number of nests found in this locality is not stated in the letter, but another nest is mentioned which was upon a tree about fifty feet distant."

11. *Porzana noveboracensis*, *Cass.* YELLOW RAIL.—Not very rare in the northern portion of the State, and without doubt breeds.

12. *Porzana jamaicensis*, *Cass.* BLACK RAIL.—A regular summer resident, and not very rare. During the spring of 1875 I saw three specimens in the Calumet Marsh; and Mr. Frank De Witt of Chicago, while collecting with me near the Calumet River, June 19, 1875, was fortunate enough to find a nest of this species containing ten freshly laid eggs. The nest was situated in a deep cup-shaped depression, and in shape and situation resembled that of the Meadow Lark, except that the Rail's nest is much deeper in proportion to the diameter. The nest was more elaborately made than the nest of any other of the genus I have seen. The outer portion is composed of grass-stems and blades, the inner portion of soft blades of grass arranged in a circular manner and loosely interwoven. Owing to the small diameter of the nest there were two layers of eggs. The eggs are clear white, thinly sprinkled with reddish-brown dots, which become much more numerous about the large end.

13. *Harelda glacialis*, Leach. LONG-TAILED DUCK.—"Obtained by Professor Stein at Mt. Carmel, in December, 1874." Exceedingly abundant on Lake Michigan every winter.

14. *Graculus dilophus* var. *floridanus*, Coues. FLORIDA CORMORANT.—"In the spring of 1874, several very fine specimens of the Florida Cormorant were obtained at Mt. Carmel by Mr. S. Turner and my brother, John L. Ridgway, and others were obtained during the succeeding summer, the species being abundant along the river. This form is a summer resident, while the true *G. dilophus* occurs only in winter and during the migrations."

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NOTES ON THE BREEDING HABITS OF CLARKE'S CROW  
(*PICICORVUS COLUMBIANUS*), WITH AN ACCOUNT OF  
ITS NEST AND EGGS.

BY CAPTAIN CHARLES BENDIRE, U. S. A.

[The following account of the breeding habits, nests, and eggs of Clarke's Crow is based on observations made the present year in the vicinity of Camp Harney, Oregon, by Captain Bendire, and is compiled, with his permission, from his letters addressed to the writer. The only previous account of the nest and eggs of Clarke's Crow seems to be that given by Mr. J. K. Lord (in his "Naturalist in Vancouver"), who found this species nesting near Fort Colville, in Washington Territory, in the top of a high pine, two hundred feet from the ground. — J. A. ALLEN.]

ON April 22, 1876, I succeeded in finding two nests of Clarke's Crow. One contained three young, possibly four days old; the other, one young bird and two eggs, one of the latter already cracked. The nests were placed in pine trees. On the 27th I again visited the mountains, and made thorough search near where the first nests were found, and discovered another in which the young could not have been more than one day old. One of the nests discovered on the first visit I brought away in excellent order. It was placed on the extremity of a branch, on a pine (*Pinus ponderosa*), about twenty-five feet from the ground, and well protected from view by longer branches projecting both above and below the nest. It is a bulky affair, like all the others I have seen, but looks quite small as viewed from below. The nest proper rested on a platform of small sticks of the white sage, placed on the pine branches, and is composed of dry grasses, vegetable fibres and

the fine inner bark of *Juniperus occidentalis*. The whole mass is well woven together, and makes quite a warm, comfortable structure. The outer diameter of the nest is eight and a half inches; the inner, four and a half; depth inside, three and a quarter inches; outside, five inches. The two eggs measure respectively 1.22 by .95 inches, and 1.20 by .90. Ground color, light grayish-green, speckled and blotched with grayish, principally about the larger end. On the smaller egg the spots are finer and more evenly distributed, a few of them being rather of a lavender color than gray. These eggs resemble in shape those of Maximilian's Jay (*Gymnokitta cyanocephala*), two of whose eggs I have from Mr. Aiken out of the nest found by him in Colorado. The markings on those, however, are darker and thicker than on those of Clarke's Crow, and the eggs are a little smaller.

All the nests I have seen were placed in pine trees, well out on the limbs, and generally twenty to forty feet from the ground. Trees with plenty of branches seem to be preferred, and the edges of the pine timber to the interior of the forests. Now that I know where to look for these nests, I have no difficulty in finding them, and feel certain of getting a number of nests if I am here next year. I regret that I did not discover one a few weeks earlier.

The female seems to be a very close sitter, and the birds seem very devoted to their young and eggs. When the first nest was visited the bird would not leave it at all, and though the man pulled out part of its tail in taking it off, it came back again before he left the nest himself. On the second visit, in order to see how much disturbance these birds would bear when on the nest, I fired a charge of shot into the limb on which the nest was placed from which I took the two eggs, and about two feet from the nest, and no bird leaving I threw sticks at it and hit the base of the nest once or twice, but still no bird appeared. Then I had the man who was with me climb the tree, and only after he was within a foot of the nest and in plain sight of the bird did it fly off. The young one left in the nest had grown very much during the five days since the first visit.

DESCRIPTION OF A NEW DUCK FROM WASHINGTON  
ISLAND.

BY THOMAS H. STREETS, M. D., PASSED ASSISTANT SURGEON, U. S. N.

*Chaulelasmus couesi.*

BILL nearly as long as the head, about as deep as broad at the base, depressed anteriorly, sides nearly parallel but converging slightly toward the base, tip rounded, and unguis abruptly curved; frontal angle short and obtuse; dorsal line at first sloping, rather more so than in *C. streperus*, anterior portion broad, straight, and flattened. Internal lamellæ numerous, small, and closely packed, about seventy-five in number,—in *streperus* only about fifty. Nostrils sub-basal, lateral, large, and oblong.

*Plumage (immature).* Head above dark brown, the feathers tipped with a lighter shade; frontal feathers with the central portion black, and edged with brownish-white; throat and sides of head brownish-white, shafts of the feathers brown, a small brown spot at the extremity of each; lower portion of the neck and breast all around with the feathers marked with concentric bars of black and light reddish-brown; under surface of the body white, each feather with a broad dark band near the extremity, which gives to this region a mottled aspect; toward the tail the white of the abdomen assumes a dull reddish-brown tinge; the brownish-red color becomes more decided on the flanks and sides of the body where covered by the wings. On the back the plumage is more mature. Color dark brown marked transversely by fine wavy lines of black and white; scapulars dark brown and fringed with a narrow rim of reddish-brown. Middle wing-coverts chestnut; greater, velvet black; speculum pure white, the inner web of the white feathers grayish-brown; in the third feather in the speculum, counting from within, the white gives place to a hoary gray with a black outer margin; the primaries light brown, the portion of both webs nearest the shaft lighter; shaft light brown. Tail containing fourteen feathers, hoary plumbeous-gray, under surface lighter and shining; under tail-coverts crossed by transverse bars of black and white; upper coverts composed of dark brown and black feathers mingled. Under wing-coverts and axillars pure white. Bill and feet black, somewhat lighter on the inner side of the tarsus. Tibia bare for about half an inch. Length, 17 inches; wing, 8; tarsus, 1.40; commissure, 1.65; culmen, 1.45; height and breadth of bill at base, .55; average width of bill, .55. First toe, .30; second, 1.48, including claw, shorter than third toe without claw; third toe, 1.88 without claw, longer than outer toe without claw; outer toe, 1.75.

A female is similar, but with little trace of the peculiar wing markings, both the chestnut and black being wanting, and the speculum being hoary gray instead of white. Both the specimens before me are immature; the adults, it is presumed, will show the peculiar vermiculated appearance of *C. streperus*. They resemble [the immature condition of *C. streperus* so closely that one description of the coloration would answer for both species; but the *C. couesi* is immediately distinguished by its greatly inferior size, which hardly exceeds that of a teal, the different color of the bill and feet, and the singular discrepancy in the lamellæ of the bill, which are much smaller, and *one-third* more numerous.

*Habitat:* Washington Island, one of the Fanning Group, situated about latitude 6° N. and longitude 160° W.

I dedicate this new species to one of our most distinguished ornithologists, Dr. Elliott Coues, U. S. A., as a slight testimonial of regard, and in consideration of the service which he has rendered to the science of ornithology.

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### Recent Literature.

**DESCRIPTIONS OF NEW SPECIES OF AMERICAN BIRDS.**—Mr. George N. Lawrence has recently described seven new species of birds from tropical America. Two of these are Jays,\* one of them (*Cyanocitta pulchra*) being from Ecuador and the other (*Cyanocorax ortonii*) from Northern Peru. The others † are two new species of Tanager of the genus *Chlorospingus* (*C. speculiferus* and *C. nigrifrons*), respectively from Porto Rico and Ecuador, and three new species of Flycatcher (*Serpophaga leucura*, from Ecuador, *Orchilus atricapillus*, from Costa Rica, and *Empidonax nanus*, from St. Domingo). The descriptions of two of the species (*Chlorospingus speculifera* and *Serpophaga leucura*) are accompanied by colored figures.—J. A. A.

**BIRDS OF KANSAS.**—Professor F. H. Snow has recently published a third edition of his “Catalogue of the Birds of Kansas,” ‡ giving an annotated list of 295 species. Twenty-three species and one variety have been added since the publication of the second edition in October, 1872; and it is believed a few others will still be added by further research. The list is very creditable to the zeal and energy of Professor Snow and

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\* Description of a New Species of Jay of the Genus *Cyanocitta*; also of a supposed New Species of *Cyanocorax*. By George N. Lawrence. Annals of the Lyc. of Nat. Hist. N. Y., Vol. XI, pp. 163-166. [Published Feb. 1876.]

† Descriptions of Five New Species of American Birds. By George N. Lawrence. Ibia, 3d Series, Vol. V, pp. 383-387, Plate IX, July, 1875.

‡ A Catalogue of the Birds of Kansas. Contributed to the Kansas Academy of Science. 8vo. pp. 14. November, 1875.

his fellow-workers, who have done so much to make known the avian fauna of Kansas.—J. A. A.

ORNITHOLOGY OF KERGUELEN ISLAND.—In addition to the very interesting and valuable report on the birds of Kerguelen Island\* published some months since, Dr. Kidder has recently, in conjunction with Dr. Coues, given an account of the Oölogy of the island,† including detailed descriptions and measurements of the eggs, together with an account of the breeding habits of all the species found breeding there. These are about twenty in number, and all but one are aquatic. They include the heretofore little-known *Chionis minor*, the recently described *Querquedula eatoni*, *Graculus carunculatus*,‡ three species of the Gull family (*Laridae*), eleven species of the Petrel family (*Procellariidae*), and four species of Penguins (*Spheniscidae*), the eggs of a considerable proportion of which had not been before described.

With this paper is published, by the same authors, "A Study of *Chionis minor* with reference to its Structure and Systematic Position."§ This essay opens with a résumé of the literature of the species, beginning with the founding of the genus *Chionis* by Forster in 1788. Then follows a description of its anatomy, including an account of its myology, of the viscera and the skeleton; of its habits, general appearance in life, and external characters. In some features *Chionis* is found to have a considerable superficial, as well as osteological resemblance to the Gulls, and also to the *Grallæ*, with which latter group it has heretofore been usually associated; but other features point to its association with either of these groups as unnatural. In summing its external characters, say these authors, "we see how exactly *Chionis* stands between grallatorial and natatorial birds, retaining slight but perfectly distinct traces of several other types of structure." Its digestive system is regarded as "decidedly rasorial in character," while its cranial and sternal characters show its strong alliance to the Gulls, with a less close relationship to the Plovers. On the whole, *Chionis* seems to be made up of distinctive characteristics amounting almost to anomalies, and in view of its remoteness from any other group, it is regarded by our authors as entitled to distinct superfamily rank, standing between the Gulls and Plovers, but rather nearer to

\* Contributions to the Natural History of Kerguelen Island. By J. H. Kidder, M. D., Passed Assistant Surgeon U. S. Navy. I. Ornithology. Edited by Dr. Elliott Coues, U. S. A. Bulletin of the United States National Museum, No. 2. Washington: Government Printing-Office, 1875. 8vo. pp. 51.

† Contributions to the Natural History of Kerguelen Island. By J. H. Kidder. II, pp. 6-20. Bull. U. S. Nat. Mus. No. 3. Washington [etc.], 1876.

‡ [*Graculus verrucosus* = *Halieus (Hypolucus) verrucosus*, n. sp. Cab., Journ. f. Orn., Jahrg. XXIII, Oct. 1875, p. 450. — ELLIOTT COUES.]

§ Contributions to the Natural History of Kerguelen Island. By J. H. Kidder. II, pp. 85-116. Bull. U. S. Nat. Mus. No. 3. Washington [etc.], 1876.

the former. For this group the super-family name *Chionomorpha* is proposed. In view of some differences between *Chionis alba* and *Chionis minor* that are noted as of probably supra-specific value, the new generic title of *Chionarchus* is proposed for *C. minor*. — J. A. A.

EXTINCT BIRDS WITH TEETH.—A few months since, Professor O. C. Marsh of New Haven described \* several species of extinct birds with teeth from the Cretaceous of Kansas. One of these (*Ichthyornis dispar*, Marsh) was an aquatic bird of about the size of a pigeon. Its jaws and teeth show it to have been carnivorous, and its powerful wings indicate that it was capable of prolonged flight. The teeth were numerous, small, compressed and pointed, set in distinct sockets, and their crowns were covered with nearly smooth enamel. A second species (*Apatornis celer*, Marsh) is of about the same size as the first named, but of more slender proportions. Another species (*Hesperornis dispar*, Marsh), one of the most interesting of the group with teeth yet found, was a gigantic diver. Its teeth had no true sockets, but were placed in grooves and supported on stout fangs. In form they somewhat resemble the teeth of the Mosasauroid reptiles, and they had the same method of replacement.

Professor Marsh has since described † two other species of the same group, both of gigantic size. One of these is named *Hesperornis gracilis*, and the other *Lestornis crassipes*, the latter representing a new genus as well as a new species. These interesting forms are regarded as representing two distinct orders (*Odontotormæ* and *Odontolæ*) of the subclass *Odon-tornithes* (*Aves dentatae*) or toothed birds, which combine in a peculiar manner many reptilian characters with others truly avian. — J. A. A.

“LIFE-HISTORIES OF THE BIRDS OF EASTERN PENNSYLVANIA.” ‡ — Under this title Mr. T. G. Gentry has given the public a most welcome volume of biographies of the birds of Eastern North America. The work is based on the author's careful studies of the birds of Eastern Pennsylvania, and bears strongly the stamp of originality. The general habits and songs of the different species are faithfully described ; while the character of their nests, the manner of building, periods of incubation, the age of the young on quitting the nest, etc., etc., are dwelt upon in detail ; the food of each is also carefully noted. The author's style is unostentatious and simple, at times lapsing into carelessness ; but the chief defect of the book is its unprepossessing typographical appearance, printer's blunders of every description abounding, while the paper and type are wholly un-

\* American Journ. Sci. and Arts., Nov. 1875, pp. 403–409, Plates IX, X, (reprinted in Amer. Nat., Vol. IX, pp. 625–631, Plates II, III).

† Amer. Jour. Sci. and Arts., June, 1876, pp. 509–511.

‡ Life-Histories of the Birds of Eastern Pennsylvania. By Thomas G. Gentry, Member of the Academy of Natural Sciences of Philadelphia, and of the Canadian Entomological Society of Toronto. In two volumes. Vol. I: Philadelphia. Published by the author, 1876. 12 mo., pp. xvi, 809.

worthy of so valuable a work. These faults of mechanical execution can, however, be easily remedied in a future edition, which we sincerely hope the demand for the work will soon call for. The present volume includes the Song-Birds as far as the *Corvidæ* of Dr. Coues's arrangement, and forms a work that no ornithologist can be without, while its popular character ought to insure it a wide range of readers. — J. A. A.

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### General Notes.

**BREEDING OF THE CANADA GOOSE IN TREES.** — Dr. Coues, in his "Birds of the Northwest" (p. 554), alludes to the breeding of the Canada Goose (*Branta canadensis*) in trees in "various parts of the Upper Missouri and Yellowstone regions." He refers to the fact as being little known, and as not personally verified by himself, though perfectly satisfied of the reliability of the accounts furnished him by various persons, including Mr. J. Stevenson of Dr. Hayden's Survey. Dr. Coues further adds that he found the circumstance to be a matter of common information among the residents of Montana Territory. "The birds," he says, "are stated to build in the heavy timber along the larger streams, and to transport their young to the water in their bills."

The fact of the breeding of the Canada Goose in trees is further confirmed by Captain Charles Bendire, who reports its breeding in this manner near Camp Harney, under, however, rather peculiar circumstances. In a letter dated Camp Harney, Oregon, April 24, 1876, Captain Bendire writes as follows: "The season is very backward, and scarcely any of the small species of birds have commenced to build yet. The water is very high, and the whole lower Harney valley is flooded. The Western Canada Geese seem to have anticipated such a state of affairs, as last year I did not see a single nest of theirs off the ground, while this spring all of them, as far as I have observed personally or have heard of through others, are built in trees off the ground, mostly in willows. Some make use of Herons' nests, and one of a Raven's nest, the only Raven's nest I found last year in a tree." Apropos of this change of habit with circumstances, Captain Bendire asks the pertinent question, "Is it instinct or reason?" — J. A. ALLEN.

**TARSAL ENVELOPE IN CAMPYLORHYNCHUS AND ALLIED GENERA.** — Impressed with certain differences observable between typical Wrens and the three Western genera, *Campylorhynchus*, *Salpinctes*, and *Catherpes*, generally assigned to the *Troglodytidae*, I have been led to look into the technical aspects of the case, with the result of becoming dissatisfied with the alleged position of these forms among the Wrens. In establishing the

genus *Catherpes* as distinct from *Salpinctes*, Professor Baird noted certain discrepancies in the structure of the feet; and in 1864 (Review, p. 109), he enlarges upon the remarkable structure of the tarsus of *Salpinctes*, which he characterizes as "especially peculiar among all its cognate genera by having the usual two continuous plates along the posterior half of the inner and outer faces of the tarsus divided transversely into seven or more smaller plates, with a naked interval between them and the anterior scutellæ." This is certainly a remarkable feature for a presumed thoroughly Oscine bird to exhibit, since it is highly characteristic of Oscines to have the postero-lateral tarsal plates continuous, meeting in a sharp ridge behind. I verify the state of the case in *Salpinctes* as given by Professor Baird, but I find, to my surprise, that in *Campylorhynchus* the lateral plates, but especially the outer one, are broken up into a series of conspicuous scutellæ; and that *Catherpes* shows a tendency, not so fully expressed, to similar division of the tarsal envelope. If this structure really possesses the significance attributed to it by many of the best writers, the question whether these birds are Wrens at all is reopened. That they possess decidedly Wren-like habits is no strong argument, for nothing is more fallacious than such teleological bending of diverse structures to similar ends. It will be remembered that Lafresnaye, and other writers of repute, have placed species of *Campylorhynchus* in the genus *Picolaptes*, which is a member of the large family *Dendrocolaptidae*; some of these birds have rigid acuminate *Certhia*-like tail-feathers, and Creeper-like habits; in others, however, the tail is soft, and among them is witnessed the greatest diversity of habits. On comparing our *Campylorhynchus* with a typical *Dendrocolaptine* (*Dendroornis erythropygia*), I find that the bills of the two are extremely similar, and that the tarsal envelope of *Dendroornis* is broken up posteriorly into a number of plates, of which those on the inner aspect are continuous with those in front, while the postero-exterior ones are a series of rounded and isolated scales. Again, in the case of *Salpinctes*, it will be recollect that Bonaparte placed it in the genus *Myiothera*, and considered it an Ant-thrush (*Formicariidae*). On examining the tarsus of a species of *Thamnophilus*, a typical Formicarian, I find that the plates are divided behind, and the general structure is substantially the same as in *Salpinctes*. The case of *Catherpes* is less clear, but it would doubtless go with *Salpinctes*. These points may not suffice for the summary dismissal of the genera under consideration from the *Troglodytidae*, but they go to show that their position in that family is not assured. — ELLIOTT COUES.

OCCURRENCE OF THE CURLEW SANDPIPER IN MASSACHUSETTS. — Mr. Charles I. Goodale, our accomplished Boston taxidermist, has a fine Curlew Sandpiper (*Tringa subarquata*) which was sent to him to be mounted. It was shot in East Boston, Mass., early in May, 1876, as it was feeding on a sandspit among a flock of "Peeps." This bird is in very perfect spring plumage, and furnishes the second authentic instance

of the occurrence of this species in New England. In its claims to be regarded as a bird of North America it may best be compared with the Ruff (*Machetes pugnax*). Both are probably not infrequent stragglers to our continent. — WILLIAM BREWSTER.

THE IPSWICH SPARROW IN NEW BRUNSWICK. — On April 11, 1876, while collecting at Point Lepreaux, N. B., in company with Mr. William Stone, we secured a fine female of the Ipswich Sparrow (*Passerculus princeps*, Maynard). It was sitting on a rock on the extreme end of the Point when first seen, and was very easily secured. The yellow over the eye in this specimen is more intense than in any other I have ever examined, and quite equals in this respect the average coloring of the same area in *P. savanna*. This is the third spring specimen that has been thus far reported. The first, a male, was taken by Mr. Maynard at Ipswich, April 1, 1874; and the second by Mr. Willey of Portland, at Cape Elizabeth, Maine, March 15, 1875. The former is now in my possession, and the latter graces the collection of Mr. N. C. Brown of Portland. — WILLIAM BREWSTER.

PASSERCULUS PRINCEPS AND PARUS HUDSONICUS IN CONNECTICUT. — On November 4, 1875, while collecting along the beach at "South End," a few miles below New Haven, I was fortunate enough to secure a fine specimen of the Ipswich Sparrow (*Passerculus princeps*, Maynard). The specimen was a female, and in excellent condition. Its mate was seen, but escaped capture.

On November 13, 1875, Mr. Robert Morris, while shooting in a wooded ravine a few miles from town, killed a female Hudsonian Titmouse (*Parus hudsonicus*). The specimen is now in the collection of Mr. Thomas Osborn of this city. It is, I think, the first occurrence of this species south of Concord, Mass. — C. HART MERRIAM, *New Haven, Conn.*

ANSER ROSSII IN OREGON. — Captain Charles Bendire, U. S. A., in a recent letter to the writer, announces the capture by him of a female of this rare species at Camp Harney, Oregon, "the first and only one," he says, "I have seen killed about here." He states in a later letter that the specimen was shot from a flock of twelve to fifteen individuals, and adds that several parties have since told him that they had killed such small geese before, but supposed them to be the young of the Snow Goose (*Anser hyperboreus*). Captain Bendire, however, believes them to be very rare at that locality, and has never seen any brought in by the numerous hunting parties from the Post. He gives the length of the specimen taken as twenty-two inches, with the body not larger than a Mallard's. The only other United States record for this species that I have seen is California (Coues). — J. A. ALLEN.

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DECREASE OF BIRDS IN MASSACHUSETTS.

BY J. A. ALLEN.

UNFORTUNATELY very few data are obtainable relative to the birds which inhabited Massachusetts at the time of its first exploration and settlement, nearly three hundred years ago. The smaller species attracted little attention here, as elsewhere in North America, prior to the beginning of the present century. A few notices of the larger species occur in the early accounts of the productions and "commodities" of the State, which are sufficiently definite and trustworthy to show that a few species then common have since been nearly or wholly extirpated, and that a number of others are far less numerous now than they were in the early colonial days.

The number of indigenous species thus far recognized as belonging to the fauna of the State is about three hundred and ten. Two of these (the Great Auk, *Alca impennis*, and the Wild Turkey, *Meleagris gallopavo* var. *occidentalis*) have become wholly extirpated, and two others (the Pinnated Grouse, *Cupidonia cupido*, and the American Swan, *Cygnus americanus*) are so nearly that the former is found at only one or two limited localities and the latter is but a chance visitor. Another (the Brown or Sandhill Crane, *Grus canadensis*), and perhaps a second (the White or Whooping Crane, *Grus americanus*), will be presently shown to have been formerly inhabitants of the State, though extirpated at so early a date that they have not as yet been recognized as belonging to its fauna. That several others have likewise greatly decreased in numbers will be shown in the present article. These are the Red-winged Blackbird (*Agelaius phoeniceus*), the Purple Grackle (*Quiscalus purpureus*), the Crow (*Corvus americanus*), the Raven (*Corvus corax*), the Pileated

Woodpecker (*Hylotomus pileatus*), the Red-headed Woodpecker (*Melanerpes erythrocephalus*), the Wild Pigeon (*Ectopistes migratorius*), and the Snow Goose (*Anser hyperboreus*). Besides these might be added, as among those which have also notably decreased, most of the wading and swimming birds, and nearly all of the rapacious species. None of the Ducks and Geese, and probably few of the limicoline species, are probably *one tenth* as numerous now as they were two hundred and fifty years ago, while a great depletion has also occurred amongst the Gulls and Terns. This great diminution, however, is not of course limited to the State of Massachusetts, but likewise characterizes most of the Atlantic States, and some of the older States of the interior.

This reduction has been mainly brought about by what may be considered as inevitable and natural causes, as the removal of the forests, and other changes necessarily attending the agricultural development of the country. Excessive use of the gun, however, has had not a little to do with it. The rapacious species have ever been regarded as the natural enemies of the husbandman, and with them all species that have in any way preyed upon his crops.

In early times premiums were paid by the local governments for the destruction of many of these species, and not without cause. The early records show that such was the abundance of the Blackbirds and Crows that their destruction in large numbers was absolutely necessary, in order to secure more than a small portion of the maize harvest. While most, or at least many, of the towns early encouraged the destruction of the noxious mammals and birds by the offer of rewards therefor, others passed enactments rendering it obligatory upon each householder to destroy a certain number of blackbirds annually, and to bring their heads to the selectmen of the towns to show they had complied with the requisition, on penalty of a small fine for each blackbird lacking to complete the required number.\* These means seem to have been immediate, and in some cases disastrous, in their results. The traveller, Kalm, relates that Dr. Franklin told him, in 1750, that in consequence of the premiums that had been paid for killing these birds in New England, they had become so nearly extirpated there that they were "very rarely seen, and in few places only." In consequence of this exterminating warfare on the "maize-thieves," the worms that

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\* See Alonzo Lewis's History of Lynn, p. 186.

preyed upon the grass increased so rapidly that in the summer of 1749 the hay crop was almost wholly cut off by them, the planters being obliged to bring hay from Pennsylvania, and even from England, to Massachusetts, to meet the deficiency caused by the worms.\*

In scores of the early enumerations of the birds of New England, and of the Atlantic States generally, the Raven, as well as the Crow, is mentioned. This seems to imply that the Raven, at the time of the first settlement of the country, was more or less common from Virginia to Maine, and that persecution, combined with its natural timidity, has caused its expulsion from the more thickly settled parts of the Eastern States.

That the Pileated Woodpecker (*Hylotomus pileatus*) was once a common inhabitant of all the primitive forests of this State seems to be unquestionable, though absolute proof of the fact may not be available. It still occurs in abundance throughout the older States, wherever the forests remain comparatively undisturbed, while it is well known to quickly retire where its haunts are invaded by the destroying axe of the woodsman. It is also a matter of record that the Red-headed Woodpecker has nearly disappeared, almost within the present generation, from all the region east of the Hudson River, where it was formerly as common, apparently, as it is now in any of the Middle or Western States. In this case, however, the disappearance is without an evident cause. The deforestation of the State has undoubtedly produced a vast decrease among the other species of the *Picidae*, as well as generally among all the strictly forest birds, through the great restriction of their natural haunts.

The Wild Turkey (*Meleagris gallopavo* var. *occidentalis*), though once a common inhabitant of New England from the more southerly parts of Maine, New Hampshire, and Vermont, southward, long since ceased to exist here in a wild state. Its former abundance in Massachusetts is well attested. I will give here, however, only a single reference indicative of the former great number of these birds in the eastern part of the State. Thomas Morton, who resided here "many years" prior to 1637, says: "Turkies there are, which divers times in great flocks have sallied by our doores; and then a gunne (being commonly in a redinesse,) salutes them with such a courtesie, as makes them take a turne in the Cooke roome.

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\* Kalm's Travels, Forster's translation, Vol. II, p. 78.

They daunce by the doore so well . . . . I had a Salvage who hath taken out his boy in a morning, and they have brought home their loades about noone. I have asked them what number they found in the woods, who have answered Neent Metawna, which is a thousand that day; the plenty of them is such in those parts. They are easily killed at rooste, because the one being killed, the other sit fast nevertheless, and this is no bad commodity."\* According to John Josselyn, they began early to decline. This author, writing in 1672, says: "I have also seen three score broods of young Turkies on the side of a Marsh, sunning of themselves in a morning betimes, but this was thirty years since, the English and the Indians having now destroyed the breed, so that 't is very rare to meet with a wild Turkey in the Woods; but some of the English bring up great store of the wild kind, which remain about their Houses as tame as ours in England."† This would seem to indicate that the Wild Turkey was often domesticated in Massachusetts, and renders it probable that our domestic stock was by no means wholly derived, as is commonly supposed, from Mexico. Besides Josselyn's statement of their domestication in New England, I have met with other statements to the same effect, and can cite numerous instances of its domestication in Pennsylvania, New Jersey, and Virginia early in the seventeenth century.‡

Under the name of "Pheasants," Morton and others make unquestionable reference to the Pinnated Grouse (*Cupidonia cupido*), showing that it was once a common denizen of this State. A few pairs are still known to exist on the islands of Naushon and Martha's Vineyard, where they have of late been stringently protected by law.

The Wild Pigeon (*Ectopistes migratoria*), though by no means yet extirpated from the State, has greatly decreased here in numbers during the present generation, and has not been seen within the present century in nearly so great abundance as in earlier times. Space will allow of reference to but few of the many accounts of its former almost incredible numbers. Morton refers to the presence of "Millions of Turtle doves on the greene boughes; which sate pecking of the ripe pleasant grapes, that were supported

\* New English Canaan, pp. 69, 70.

† New Englands Rarities, p. 9.

‡ On the domesticability of the Wild Turkey of the United States, see Bull. Mus. Comp. Zoöl., Vol. II, pp. 343-352.

by the lusty trees";\* and Josselyn speaks of "the Pidgeon, of which there are millions of millions. I have seen a flight of Pidgeons in the spring, and at Michaelmas when they return back Southward for four or five miles, that to my thinking had neither beginning nor ending, length nor breadth, and so thick that I could see no Sun, they join Nest to Nest, and Tree to Tree by their Nests many miles together in Pine-Trees. But of late they are much diminished, the English taking them in Nets."† Their abundance on the Vermont border, in 1741, is thus described by Williams: "The surveyor, Richard Hazen, who ran the line which divides Massachusetts from Vermont, in 1741, gave this account of the appearances he met with to the westward of the Connecticut River. 'For three miles together the Pigeons' nests were so thick that five hundred might have been told on the beech trees at one time; and could they have been counted on the hemlocks, as well, I doubt not but five thousand at one turn round.' The remarks of the first settlers of Vermont," continues Williams, "fully confirm this account. The following relation was given me, by one of the earliest settlers of Clarendon [situated about fifty miles north of the Massachusetts line]: 'The number of Pigeons was immense. Twenty-five nests were frequently to be found on one beech tree. The earth was covered with these trees, and with hemlocks thus loaded with the nests of Pigeons. For an hundred acres together, the ground was covered with their dung, to the depth of two inches. Their noise in the evening was extremely troublesome, and so great that the traveller could not get any sleep where their nests were thick. About an hour after sunrise, they rose in such numbers as to darken the air. When the young Pigeons were grown to a considerable bigness, before they could readily fly, it was common for the settlers to cut down the trees, and gather a horse load in a few minutes.' The settlement of the country has since set bounds to this luxuriance of animal life," and these birds have been driven to other districts.‡ The early history of the country shows that down to about the year 1800 this bird was found in similar abundance, at times at least, all along the Atlantic coast from Virginia to Maine, since which time it has greatly decreased throughout this whole region.

\* New English Canaan, p. 60.

† Voyages to New England, p. 99.

‡ Natural and Civil History of Vermont, p. 114.

In all the early notices of the natural productions of New England, the Crane is mentioned among the few birds usually enumerated. Emmons gives the Whooping Crane (*Grus americana*) in his list of the birds of Massachusetts, but subsequent writers have generally believed without due authority, and of late it has been wholly lost sight of as a bird of the State. That some species of Crane, and in all probability both species, was common in New England in early times, is beyond question. Both the Sandhill and the Whooping Cranes have still a wide range in the interior, passing northward in summer far beyond New England. Neither species has of late been met with north of New Jersey, where the Whooping Crane occurs only as a rare casual visitor. Morton wrote, of "Cranes, these are greate store, that ever more came there at S. Davids day, and not before; that day they never would misse. These doe sometimes eate our corne, and do pay for their presumption well enough; and serveth there in powther, with turnips to supply the place of powthered beefe, and is a goodly bird in a dish, and no discommodity."\* This shows that the Crane, and not a Heron, is the bird to which reference is made.

The Swan (*Cygnus americanus*) is in a similar way enumerated by different early writers as formerly a common bird of Massachusetts, though of late years it appears only in our lists of casual visitors. Morton, more explicit than most writers of his time who refer to it, says, in beginning his account of the birds: "And first the Swanne, because shee is the biggest of all the fowles of that Country. There are of them in Merrimack River, and in other parts of the country, greate store at the seasons of the yeare. The flesh is not much desired of by the inhabitants, but the skinnes may be accompted a commodity, fitt for divers uses, both for fethers, and quiles."†

The Great Auk (*Alca impennis*) has recently been added to the list of the birds of the State, on account of the occurrence of its bones in the Indian shell-heaps at Ipswich. There is little reason to doubt, however, that the bird called "Pengwin," or "Penguin," mentioned as found from Cape Cod northward at the time Europeans first visited this coast, really refers to the Great Auk. It figures in all the early enumerations of the birds of New England

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\* New English Canaan, p. 69.

† Ib., p. 67.

and Newfoundland, while it does not appear in any of the lists referring to the region south of Massachusetts. Captain Bartholomew Gosnold, in 1602, found "Pengwins" on the Massachusetts coast at what he calls "Gilbert's Point," in latitude  $41^{\circ} 40'$ . He says: "The twentieth, by the ships side we there killed Pengwins and saw many sculls of fish."\* The locality, as shown by the context, was between the southeastern point of Cape Cod and Nantucket Island, probably a few miles south of Egg Island. What the bird called "Pengwin" was, that was so often referred to by the early explorers of the New England coast, is clearly evident from the following: Richard Whitbourne, in his account of his voyage to Newfoundland, in 1618, says, "These Penguins are as bigge as Geese, and flie not, for they have but little short wings, & they multiply so infinitely, upon a certaine flat Island [Sable Island], that men drive them from thence upon a boord into their Boates by hundreds at a time; as if God had made the innocencie of so poore a creature to become such an admirable instrument for the sustentation of man."† The same bird is also referred to by Josselyn as the "Wobble." He says: "The Wobble, an ill shaped Fowl, having no long Feathers in their Pinions, which is the reason they cannot fly, not much unlike the Pengwin; they are in the Spring very fat, or rather oyly, but pull'd and garbidgd, and laid to the Fire to roast, they yield not one drop."‡

This bird, so valuable as a "commodity," and whose "innocencie" rendered its capture so easy, doubtless did not long survive on the coast of New England after the establishment here of permanent settlements.

Much might be added, did space allow, respecting the former abundance of Ducks, Geese, Sandpipers, and Plovers. A few extracts on this point from Morton, in his own quaint language, must here suffice. "There are Geese," he says, "of three sorts vize brant Geese, which are pide, and white Geese which are bigger, and gray Geese which are as bigg and bigger, then the tame Geese of England, with black legges, black bills, heads, and necks black; the flesh farre more excellent, then the Geese of England, wilde or tame. . . . There is of them great abundance. I have had often 1000 before the mouth of my gunne . . . the fethers of the

\* Purchas's Pilgrims, Vol. IV, p. 1648.

† Ib., Vol. IV, p. 1886.

‡ New Englands Rarities, p. 11.

Geese that I have killed in a short time, have paid for all the powther and shott, I have spent in a yeare, and I have fed my doggs with as fatt Geese there, as I have ever fed upon my selfe in England.

“Ducks, there are of three kinds, pide Ducks, gray Ducks, and black Ducks in greate abundance: the most about my habitation were black Ducks: and it was a noted Custome at my howse, to have every mans Duck upon a trencher, and then you will thinke a man was not hardly used. . . . . Teales, there are of two sorts greene winged, and blew winged. . . . . I had plenty in the rivers and ponds about my howse. Widggens there are, and abundance of other water foule. . . . . Sanderlings are a dainty bird, more full bodied than a Snipe, and I was much delighted to feede on them, because they were fatt, and easie to come by, because I went but a stepp or to for them: and I have killed betweene foure and five dozen at a shoot which would loade me home.”\* Josselyn says of “Sanderlins,” he has known “twelve score and above kill’d at two shots.” The contrast in respect to the abundance of water-fowl in those early times and now is too apparent to require comment.

The White Pelican (*Pelecanus trachyrhynchus*) is mentioned as a former inhabitant of New Hampshire and other parts of New England, and was doubtless in early times more or less common in Massachusetts, where its presence is now regarded as merely accidental; but two or three recent instances of it here are on record.

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#### ON THE NUMBER OF PRIMARIES IN OSCINES.

BY DR. ELLIOTT COUES, U. S. A.

THE number of primaries among oscine birds, whether “nine” or “ten,” has been rightly considered an important item in classification, ranking in value with the modifications of the tarsal envelope. Oscine families, and even groups of families, are conveniently distinguished by this character, and as naturally as by the “booting,” or scutellation, of the tarsus. In certain families, however, the

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\* New English Canaan, pp. 67-69.

distinction fails to hold. In the *Vireonidae*, for instance, species of the same genus have indifferently "nine" or "ten" primaries. Thus, *Vireo philadelphicus* and *V. gilvus* are two species so much alike that presence or absence of a spurious "first" primary becomes the readiest means of distinguishing them. Noting this remarkable circumstance in 1865, Professor Baird was led to look more closely into the matter. His results are summed on page 325 of the "Review of American Birds" (see also p. 160); from which it appears that in those Vireos which seem to have only nine primaries, *two* little feathers, distinct in size, shape, and to some extent in position from the general series of primary coverts, are found at the base of the supposed first primary; while in those Vireos with an obvious spurious first primary, making ten in all, only *one* such feather is found. "In all the families of *Passeres* where the existence of nine primaries is supposed to be characteristic," he continues, "I have invariably found, as far as my examinations have extended, that there were two of the small feathers referred to, while in those of ten primaries but one could be detected." He does not specify how far his examinations extended.

Believing this to be an important matter, which would bear further investigation, I have been led to look into the question, with the most satisfactory results, confirming Professor Baird's observations, and extending them to include every one of the North American families of *Oscines*, excepting, perhaps, *Laniidae* (in *Collurio*) and *Ampelidae* (in *Ampelis*). With the possible exception of the two genera specified, I find, on examining numerous genera of all the North American families, that those rated as 10-primaried have but one of these little feathers, while all the rest have two.

The *Alaudidae*, like the *Vireonidae*, show a variability of the primaries. In our genus *Eremophila*, in which only nine primaries are developed, there are two of the small feathers above mentioned. The overlying one is exactly like one of the primary coverts; the other, though not very dissimilar, more resembles an abortive primary. In *Alauda arvensis*, where there is a minute but obvious spurious quill, there is but one such feather. In *Galerita cristata*, with a spurious quill about two thirds of an inch long, there is likewise but one.

In clamatorial *Passeres*, perhaps without exception, there are ten fully developed primaries, the first of which may equal or exceed the next in length. In the single North American clamatorial family

*Tyrannidae*, I find, as before, only one of these little feathers. In a Woodpecker, remarkable among picarian birds in possessing only nine fully developed primaries, the first being short or spurious, there is also but one.

It seems to be conclusively proven that among the supposed 9-primaried birds, the additional primary, making ten in all, is usually, if not always, found in the second of these little quills which overlie the first fully developed primary; and that it is this same little quill which, in 10-primaried *Oscines*, in *Clamatores*, and probably in other birds, comes to the front and constitutes the first regular primary, — sometimes remaining very short, when it is the so-called "spurious" quill, in other cases lengthening by imperceptible degrees, until it may become the longest one of all. The true nature of the other one of these two little feathers becomes an interesting question. Is it also an abortive primary, as the outer certainly is, or is it one of a series of coverts?

After close examination, I fail to detect any material difference in the *position* of the two; one overlies the other, indeed, as a covert should a primary, but then the two are inserted side by side, both upon the upper side of the sheath of the first fully developed quill. In *size* and *shape*, the two are substantially the same; both being rigid and acuminate, more like remiges than like coverts, and both being abruptly shorter than the true primary coverts. So far, all the evidence favors an hypothesis that both are rudimentary remiges. To offset this, *color* usually points the other way, as in the original case of *Vireo flavifrons*, in which Professor Baird determined the underlying one of the two feathers to be a supposed wanting primary mainly because it was colored like the other primaries, while the overlying one agreed with the coverts in this respect. But it will be obvious that when, as is oftenest the case, the primaries and their coverts are colored alike, the evidence from this source fails altogether; and I find that the testimony from coloration is sometimes the other way. In *Sitta carolinensis*, for example, a 10-primaried bird with spurious first primary, the single remaining little feather is white at base across both webs, like the primaries, the true primary coverts being white only on the inner web. It is true that the overlying one of these little feathers sometimes exactly resembles a true covert; but so, also, does the other one in some cases. In morphological determinations, position and relation of parts are all-important, while mere size, shape, and especially func-

tion, go for very little. One of the two little feathers of 9-primaried birds, as we have seen, certainly corresponds to the spurious or fully developed first primary of 10-primaried; why may not the other be also a primary? It is not conclusive argument to the contrary that the feather in question is never fully developed; nor is it an insuperable objection that the function of the feather is certainly that of a covert. The strongest argument against the view here very guardedly discussed is, that if the feather be not a covert, then the first fully developed primary has none, while the rest have one apiece. While I am far from committing myself to the implied proposition that an *Oscine* bird possesses eleven primaries, I think it proper to bring the case forward as one which will bear looking into, and which will probably remain open until the exact relations between a *remex* and a *tectrix* are ascertained. Should it be determined that an *Oscine* may show traces of *two* suppressed primaries, instead of only the single one which certainly persists in 10-primaried birds, the fact would tend to increase the value already justly set upon number of remiges as a taxonomic factor. It is generally admitted, and it seems to be unquestionable, that here, as in numberless other cases, reduction in number and specialization in function of parts indicates a higher grade of organization; for only the lower birds show the higher aggregate number of remiges, and in none but the higher are the developed primaries ever reduced to nine. A gradual reduction in the number of remiges seems to be directly correlated with that progressive consolidation or compaction of the distal osseous segments of the fore limb which reaches its climax in the wing of the most highly organized birds of the present epoch.

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#### THE YELLOW-BELLIED WOODPECKER (*SPHYRAPICUS VARIUS*).

BY WILLIAM BREWSTER.

THE Mexicans call the Woodpeckers "Carpinteros," and most appropriately, for the chisel-shaped bill not only serves the bird in procuring its daily food, but is also the sole agent employed in digging the wonderful cavities in which the eggs are laid and the young reared. It is probable that, putting aside the universal ene-

my, man, the eggs and young of this family enjoy a more complete immunity from danger than those of any other. The cunning crow and noisy jay, both ever on the alert for a frolic after bird's eggs, are here balked ; while rain cannot enter, and the mink, weazel, and other noxious animals find their keen noses of little avail. Snakes may, and doubtless do sometimes enter the holes of the larger species, but even they probably bestow more of their attentions on ground and bush building birds. All the endless little artistic contrivances for concealment so artfully employed by other birds in the construction of their nests are here needless, and consequently ignored. In view of the manifest advantages attendant upon this mode of nidification, it is a matter of no little surprise that Woodpeckers are not more numerous, especially when it is taken into consideration that the habit of roosting in holes at all seasons of the year must protect the adults, as well as young, from many nocturnal dangers. Lack of suitable opportunities for nesting, or obtaining food, may doubtless be taken as explanatory of the comparative fewness of these birds in the older settled sections. In fact, the wilderness is the true home of the Woodpeckers, and in all primitive forest regions they abound. There Nature reigns supreme, and in defiance of artificial laws and cultivated ideas of sylvan beauty, allows her woods to fill with the decaying forms of her dead subjects, — huge moss-clad trunks, picturesque in shape, and by their grim, gaunt aspect adding wildness to an already picturesque scene. In such congenial haunts these birds find all their wants supplied, food being plenty and easily obtained, and the selection of a nesting site a matter of no difficulty. Taking the seven commoner New England species, four — *Hylotomus pileatus*, *Sphyrapicus varius*, and the two species of *Picoides* — will be found almost exclusively in the forest ; while of the remaining three, the two species of *Picus* are decidedly more partial to the woods than the cultivated districts. *Colaptes* alone seems to have no preferences, and is no more abundant in the Northern forests than on treeless Nantucket, in which latter place it makes the best of circumstances and drills its holes in gate-posts and ice-houses.

Throughout the White Mountains of New Hampshire, and in most sections of Northern Maine, the Yellow-bellied Woodpeckers outnumber all the other species in the summer season. They arrive from the South, where they spend the winter, from the middle to the last of April, and, pairing being soon effected, commence at once the excavation of their nests. The trees usually selected are

large dead birches, and a decided preference is manifested for the vicinity of water, though some nests occur on high ground in the interior of the woods, but never so abundantly there as along the margin of rivers and lakes. Both sexes work alternately, relieving each other at frequent intervals, the bird not employed usually clinging near the hole and encouraging its toiling mate by an occasional low cry. With the deepening of the hole arises the necessity for increased labor, as the rapidly accumulating débris must be removed, and the bird now appears at frequent intervals at the entrance, and, dropping its mouthful of chips, returns to its work. A week or more is occupied in the completion of the nest, the time varying considerably with the relative hardness of the wood. A small quantity of the finer chips are left at the bottom to serve as a bed for the eggs. The birds now take a vacation, roaming through the woods together in search of food, though frequently one or the other remains near the nesting-place to guard the premises. The female commences laying about the 20th of May, in ordinary seasons, and deposits from five to seven eggs. The labor of incubation, like all other duties, is shared equally by the two sexes. A short sketch, founded upon an extract from the writer's journal of a day's experience on Umbagog Lake, Maine, may perhaps give the reader a better insight into the nidification of these birds than would a more formal style of description, and it is hoped will convey a sufficiently intelligible idea of the surroundings.

"Disembarking from the steamer near the head of the lake, the dense fog, which had all the morning prevailed, began to break, riven asunder by a slight breeze that had arisen, and drifting off in heavy masses, dissolved under the influence of the sun, disappearing, no one knows whither, as the ice had disappeared from these same waters earlier in the spring. And now a dozen lovely views burst into sight. Towering mountain-summits, strips of heavily wooded shore, long stretches of bright blue water rippling merrily under the influence of the rising breeze, — all these appearing and disappearing through rents and vistas of floating vapor, went to make up a constantly shifting panorama of exceeding loveliness. But nearly all of Nature's best effects are transient, and, the change from gloomy cloudiness to the bright, clear aspect of a June morning being soon effected, we found ourselves floating near the middle of a broad sheet of water, some four miles long by two in breadth, known in local parlance as the 'arm of the lake.' This fine ex-

panse, irregularly oblong in shape, resembles, as do most of the Maine lakes, a gigantic amphitheatre walled in on every side by distant mountains, which slope gradually from their base to the water's edge, while the unbroken forest which everywhere clothes the surface of the country extends down to the very shore, looking in the distance like a carpet of variegated green, the lighter colors of the foliage of the hard-wood trees contrasting beautifully with the sombre darkness of the spruce and fir. Not a single clearing or other sign of man's interference occurs in any direction to mar the perfect setting of this forest gem. Even the little steamer, just disappearing behind a distant point, looks as if born to the surroundings, and it requires no great stretch of the imagination to fancy her a gigantic water-fowl ready to dive beneath the surface, like the loon that has just risen in her wake. But these and similar reflections were somewhat abruptly broken by the guide, who, having completed the arrangement of the luggage in the boat, commenced paddling vigorously towards the western shore, where was to be the scene of our labors.

"At this place the Androscoggin River leaves the lake, and its banks being somewhat low at the point of *débouchure*, the level country adjacent for a half-mile or more back is periodically overflowed. The water, kept at a high point by dams on the river below, flows back into the forest, and the trees, killed in former years by similar inundations, stand in grim array like an army of stricken giants. That such a perfect paradise for the Woodpeckers had not been neglected was speedily manifest as we entered this place, where several species of varying size, from the great *Hylotemus pileatus* down to the trim little Downy, were soon observed. Most abundant of all, however, was the handsome *Sphyrapicus varius*, several individuals being almost constantly in sight. Commencing our search for nests, we soon found ourselves confused by the very abundance of opportunities, for not only was every tree dead and rotten, but nearly every one was perforated by a greater or less number of Woodpecker's holes. The method quickly adopted as the only practicable one was to paddle about among the trees, and, striking forcibly with an axe all that contained likely looking holes, watch for the appearance of the possible occupant. Proceeding in this way, multitudes of Swallows (*Tachycineta bicolor*) and Grakles (*Quiscalus purpureus*) were dislodged, the former occupying deserted nests of the smaller Woodpeckers, and the latter natural cavities

and deserted holes of the Golden-winged (*Colaptes auratus*) and Pileated (*Hylotomus pileatus*) Woodpeckers. At length, in response to a couple of sharp blows, the beautiful crimson-fronted head of a male *Sphyrapicus* appeared in the mouth of its hole, and the bird, after eying us curiously for a moment, launched out into the air and alighted on a neighboring tree. A few moments' consultation decided that the tree must be felled, as the hole was at least forty feet up, and the trunk so rotten that it was manifestly impossible to ascend with safety. All the Maine guides are adepts with the axe, and on this occasion but a short time elapsed before the already tottering trunk began to show signs of giving way. Both birds (for the female had appeared at the first alarm) repeatedly entered the hole, and clung against the now quivering trunk, uttering their peculiar snarling cry. A few more vigorous blows and the huge tree began to decline, then, gathering momentum, descended with fearful force, burying its full length for a moment beneath the surface and half filling the boat with water. So nicely had its fall been calculated that it came down in clear water exactly between two other trunks which stood within six feet of each other, and without touching either. To cut out the hole was now a matter of little difficulty, and to our delight we found the three eggs which it contained entirely uninjured. Subsequent experiments of a similar nature were, however, less successful.

"Continuing our search, we soon discovered another nest in a tall dead birch, the hole from which the bird emerged being at least fifty feet above the water. This tree was, after careful inspection, pronounced climbable, and the guide, with characteristic coolness, filling and lighting his short pipe, commenced to 'swarm' up, puffing out dense clouds of smoke as he ascended. Reaching the hole, he quickly and adroitly attached a rope to the trunk, and, tying a loop in the end to form a stirrup, stood in this and cut out the cavity with his axe. This nest contained six perfectly fresh eggs, all of which were brought down in safety. Proceeding in this way, five more nests were discovered, but only two sets of eggs secured, as three of the trees had to be felled, and in each instance with disastrous results."

All nests examined upon this occasion were of uniform gourd-like shape, with the sides very smoothly and evenly chiselled. They averaged about fourteen inches in depth by five in diameter at the widest point, while the diameter of the exterior hole varied from

1.25 to 1.60 inches. So small, indeed, was this entrance in proportion to the size of the bird, that in many cases they were obliged to struggle violently for several seconds in either going out or in. The nests in most instances were very easily discovered, as the bird was almost always in the immediate vicinity, and if the tree was approached would fly to the hole and utter a few low calls, which would bring out its sitting mate, when both would pass to and from the spot, emitting notes of anxiety and alarm. The bird not employed in incubation has also a peculiar habit of clinging to the trunk just below the hole, in a perfectly motionless and strikingly pensive attitude, apparently looking in, though from the conformation of the interior it would be impossible for it to see its mate or eggs. In this position it will remain without moving for many minutes at a time. The amount of solicitude evinced varies considerably with different individuals, some pairs showing the most active concern, and keeping up their cries continually, while others take matters more coolly, removing to the nearest tree and watching in total silence the demolition of their home. In nearly every instance, however, when the sitting bird is first disturbed, it utters a cry which almost immediately brings up its mate. Watching once a nest for an hour or two, I remarked that the birds relieved each other in the labors of incubation at intervals averaging about half an hour each. The one that had been absent would alight just below the hole, and, uttering a low *yew-ick, yew-ick*, its mate would appear from within, when, after the interchange of a few notes of endearment, the sitting bird would fly off and the other instantly enter the hole.

One very singular fact which I have noticed is that in nearly every tree are *several* newly finished cavities. In one case four were cut open which had evidently been freshly made, all of which were as neatly and completely excavated as the one that contained the eggs. In addition to these there are often numerous others, which by the dark color of the wood within are shown to have been made in previous years. In one tree no less than fifteen holes were counted, all of which were dug down to the usual depth. Yet in no case have I found more than one inhabited, or noticed in the vicinity any birds other than the pair to which the eggs belonged. These holes for the most part enter the tree on the same side, one above the other, but in some cases the whole trunk is perforated on *all* sides and at irregular intervals. Possibly

they are intended to accommodate the young after they have left the nest. As an example of exceptional choice of situation, one nest was found in a perfectly live poplar-tree of large size. The birds had pierced a somewhat irregular hole in the trunk, where a limb had rotted out, and, following the partially decayed wood into the very heart of the tree, had excavated a cavity to the depth of about twelve inches, which, when finished, was surrounded on all sides by healthy wood of at least six inches average thickness. The entrance to this nest was unusually low, being not over eight feet above the water. The average elevation I have found to be at least forty feet, and many nests occur considerably higher. The four sets of eggs taken on the occasion previously referred to are all apparently complete, and vary in number of eggs from five to seven, the set of five being the furthest advanced in incubation. Six are probably laid as a rule. The eggs vary considerably in shape, some being oblong and others decidedly elliptical. They average .85 in length by .60 in breadth. As with all the Woodpeckers, they are pure white, but there is much less of that fine polish than in eggs of the other species that I have examined.

When fresh, and before being blown, they resemble very closely, both in color and size, average eggs of the Martin (*Progne purpurea*). After the young have hatched, the habits of the Yellow-bellied Woodpecker change. From an humble delver after worms and larvæ, it rises to the proud independence of a Flycatcher, taking its prey on wing as unerringly as the best marksman of them all. From its perch on the spire of some tall stub it makes a succession of rapid sorties after its abundant victims, and then flies off to its nest with bill and mouth crammed full of insects, principally large *Diptera*. In this way both parents labor incessantly to provide for their hungry brood. The young leave the nest in July, and for a long time the brood remains together, being still fed by the parents. They are very playful, sporting about the tree-trunks and chasing one another continually. Both young and old utter most frequently a low snarling cry that bears no very distant resemblance to the *mew* of the Catbird. The adults have also two other notes,—one, already spoken of, when the opposite sexes meet; the other a clear, ringing *cleur*, repeated five or six times in succession, and heard, I think, only in the spring. The habit alluded to in Baird, Brewer, and Ridgway's "Birds of North America" (Vol. II, p. 541), of "drumming" on the tree-

trunks, is a very noticeable one, but by no means confined to this species. A very dry, resonant limb is usually selected, and the bird will "drum" in the same spot many times in succession. Frequently a rival appears, and a battle ends the performance, but oftener the female answers the call and joins her anxious mate. This habit appears to be perfectly analogous in motive to the well-known performance of the Ruffed Grouse, and is performed only in the spring before the eggs are laid. Both young and old leave for the South in October.

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### Recent Literature.

ORNITHOLOGY OF THE WHEELER EXPEDITIONS.—This important Memoir,\* consisting of three hundred and seventy-four quarto pages and fifteen chromo-lithographic plates, forms Chapter III of Volume V of the Reports of Surveys West of the One Hundredth Meridian, and is devoted exclusively to a systematic consideration of the ornithological material collected by the expeditions during the seasons of 1871 to 1874 inclusive, by Mr. H. W. Henshaw, Dr. H. C. Yarrow, Mr. C. E. Aiken, and other gentlemen connected with the survey. The region investigated includes portions of Utah, Nevada, California, Colorado, Arizona, and New Mexico. Much of the matter was originally published in 1874 in a preliminary report of 148 pages.† The results of the field work of 1874 are, however, here presented in detail for the first time, and furnish some of the most interesting data in the volume. The text is written by Mr. Henshaw, and does credit to that gentleman's well-known proficiency as an ornithologist. The classification adopted is, for the land-birds, that of Baird, Brewer, and Ridgway's "Birds of North America," while for the water-birds Mr. Henshaw follows Dr. Coues's check-list. The plates, though well drawn, are not all quite what we should like to see them in point of coloration.

Some few new and interesting arrangements of species and varieties are original with the author, as in the *Juncos*, which are divided into three

\* Report upon the Ornithological Collections made during the Years 1871, 1872, 1873, and 1874. By H. W. Henshaw. Chapter III, Vol. V, of the Reports of the Geographical and Geological Explorations and Surveys West of the One Hundredth Meridian, in Charge of Lt. Geo. M. Wheeler. Published by Authority of the Secretary of War. 4to. pp. 374. Washington: Government Printing-Office. 1875.

† Report upon Ornithological Specimens collected in the Years 1871, 1872, and 1873.

species, each having a single variety in the United States. The synomimatic lists given include only such references as pertain to the region traversed by the survey, thereby divesting the work of any unnecessary clumsiness. The biographical notices are excellent, and bear the impress of vigorous and original thought, founded upon careful and intelligent study in the field. Indeed, so thoroughly good are they that we cannot but wish that they were in some cases more extended; nevertheless, we have valuable descriptions of the notes, habits, and nesting of many rare and hitherto little-known species; and when it is taken into account that in most cases the expeditions were unable to get fairly at work before midsummer, it is remarkable that so much was accomplished. As a contribution to ornithology this work derives its chief value from the additions it furnishes to our knowledge of the geographical range of North American birds, the assigned limits of many species being considerably extended, and nine entirely new to our fauna added. It is to be hoped that "retrenchment and reform" will not in any way cripple the continued good work that we expect from the Wheeler Survey in the future.—W. B.

**FIELD AND FOREST.**\*—With the number for July, this journal begins its second volume, considerably enlarged and improved. The articles are varied and all valuable contributions to science, and we wish "Field and Forest" the success its merits so well deserve. The single article relating to ornithology brings forward quite novel facts in the history of Wilson's Phalarope, which are unique in the history of our birds, and should engage further attention. Mr. Kumlien describes the female as being not only "richer dressed" than the male, but as leaving the duties of incubation wholly to the male, who in the breeding season has "invariably the naked and wrinkled belly, characteristic of incubating birds," while the female shows nothing of the kind. He also represents the female as making the advances to the male during the pairing-season, and says it is not unusual to "see two females pursuing one male," instead of the reverse, as is usually the case with other birds. If no mistake has been made, these facts are among the most interesting in the annals of American ornithology.—J. A. A.

**THE PORTLAND TERN.**—Mr. William Brewster has recently published his views respecting the character of this recently described Tern.† Hav-

\* *Field and Forest: a Monthly Journal devoted to the Natural Sciences.* Vol. II, No. 1, July, 1876. 8vo, 20 pp. Washington, 1876, Charles R. Dodge, Editor. Subscription price, \$1.00 a year.

† *Some Additional Light on the so-called *Sterna portlandica*, Ridgway.* By William Brewster. *Annals of the Lyc. Nat. Hist., N. Y., Vol. XI,* pp. 200-207. [Published February, 1876.]

ing given the subject careful attention, he announces his conclusion that this interesting form is only an unusual developmental phase of the Arctic Tern (*Sterna macrura*), corresponding to a similar but heretofore little-known (in this country at least) stage of the common Tern (*T. hirundo*). Mr. Brewster has gone carefully into a discussion of the details of the question, and seems to give good grounds for his position. — J. A. A.

THE BIRDS OF RITCHIE COUNTY, WEST VIRGINIA. — Not long since, the same author published a list of the birds observed by him in West Virginia,\* based on the joint labors of himself, Messrs. Ruthven Deane, and Ernest Ingersoll during the interval between April 25 and May 9, 1874. The list includes one hundred species, with valuable field-notes, and forms an important addition to our faunal literature. — J. A. A.

BIRDS OF NEW ENGLAND. — This enumeration by Dr. Brewer,† of three hundred and thirty-six species, will prove useful in showing the recent additions to the avian fauna of New England, the presumed correct distribution of the species inhabiting that section, and that certain species accredited to it have never been obtained within its limits. Twenty-nine belonging to the latter class are expunged, the majority, we think, with good reason; but does not previous record show that *Quiscalus major*, *Corvus ossifragus*, *Aegialitis wilsonius*, *Sula fiber*,‡ and *Nettion crecca* § can at least be retained as birds that have occurred here?

Though referring to and correcting many of the errors of earlier lists, we find no credit given to some recent authorities from which it is evident facts were gleaned. We regret to find, too, that this, our latest corrected treatise on the subject, omits to give the "manner and character" of the "presence" of several species with quite the exactness that the record warrants.

The following, for instance, classed as *summer* residents (it being stated of *Corvus americanus* that "a few winter"), are constant residents in Southern New England, and one or two probably also in Northern New England, namely, *Turdus migratorius*, *Corvus americanus*, *Picus villosus*, *Otus wilsonianus*, *Brachyotus cassini*, *Nyctale acadica*, *Nisus fuscus*. The following, classed as *summer* residents (presumably of all New Eng-

\* Some Observations on the Birds of Ritchie County, West Virginia. By William Brewster. Annals of the Lyc. Nat. Hist., N. Y., Vol. XI, pp. 129-146. [Published June, 1875.]

† Catalogue of the Birds of New England, with brief Notes indicating the Manner and Character of their Presence; with a List of Species included in previous Catalogues believed to have been wrongly classed as Birds of New England. By T. M. Brewer. Proc. Boston Soc. Nat. Hist., Vol. XVII, pp. 436-454, July, 1875.

‡ See Linsley, Amer. Journ. Sci. and Arts, Vol. XLIV, 1843.

§ Bryant, Proc. Bost. Nat. Hist., Vol. V, p. 195.

land), seldom reach Northern New England : *Cistothorus stellaris*, *Vireo gilvus*, *V. flavifrons*, *V. noveboracensis*, *Spizella pusilla*, *Zenaidura carolinensis*; nor is the latter "rare." The following are not "rare" at Saybrook, Conn., but breed there regularly in more or less numbers, and probably occur all along the Sound shore west of the mouth of the Connecticut River : *Helmintherus vermivorus*, *Helminthophaga pinus*, *Icteria virens*, *Myiodictes mitratus*, as do also *Siurus ludovicianus*, and *Myiarchus crinitus*; the latter being given as a "rare summer resident" (of New England). The next two, *Helminthophaga chrysoptera* and *Coturniculus passerinus*, cannot be called "rare" summer residents of Southern New England, as they breed in numbers regularly, especially the latter. The three following are generally common, and breed regularly in Northern New England, not "rare" summer residents, as marked in the list : *Perissoglossa tigrina*, *Geothlypis philadelphia*, *Contopus borealis*. The following should be marked, not as "summer residents" or "visitants," but rather as visitors in spring and fall : *Numenius longirostris*, *Coturnicops (Porzana) noveboracensis*, and *Fulica americana*. *Picoides arcticus* and *P. americanus* are not winter visitants only, to all New England, but are residents in Northern New England, and rare winter visitants to Southern New England. *Regulus satrapa* winters in numbers in Southern New England, if not also in Northern New England, where it is nearly resident. *Anthus ludovicianus* is a spring and fall visitant in New England, not "winter." *Junco hyemalis* hardly winters in Northern New England, where it is merely a summer resident. *Ectopistes migratoria* is a regular summer resident of quite all New England, though more common in some parts than others. *Ortyx virginianus* does not occur in Northern New England. *Astur atricapillus* is resident in Northern New England, winter visitant in Southern New England. *Micropalama himantopus* is migratory along the whole New England coast.

The following should as certainly have the asterisk prefixed as any already so marked : *Mimus polyglottus*, *Ampelis garrulus*, *Eupiza americana*, *Xanthocephalus icterocephalus*, *Centurus carolinus*, *Hierofalco islandicus*, *Cupidonia cupido*, *Meleagris gallopavo*, *Himantopus nigricollis*, *Ibis ordii*, *Herodias egretta*, *Florida cerulea*, *Garzetta candidissima*, *Gallinula galeata*, *Cygnus americanus*, *Anser hyperboreus*, *Anser gambelli*, *Campylorhynchus labradorius*, *Gelochelidon aranea*.

The specimen of *Tyrannus verticalis* was shot neither at Plympton nor Pembroke, Me., but at Elliot, by Mr. George E. Brown.

In the matter of *Macrorhamphus scolopaceus*, Mr. Brewster was wrongly understood, as he informs us he finds it and *griseus* in company. Two varieties each of *Quiscalus*, *Hierofalco*, and *Archibuteo* are given as found in New England, and also an apocryphal little bird we are surprised to see brought to light again, namely, *Myiodictes minutus*. — H. A. P.

### General Notes.

THE PHILADELPHIA VIREO IN NEW ENGLAND.—The increase and decrease of certain species in given localities is becoming a subject of much interest, instances of which are cited every year. A single specimen may be captured in a locality far from the usual habitat of its species, where it may not be seen again for years, or it may gradually increase and later be found as a regular autumn migrant, though not detected in the spring, and *vice versa*. The above-named species was first given as a New England bird by Prof. Charles E. Hamlin, based upon a specimen which he captured at Waterville, Me., May 21, 1863. For the next nine years it escaped the notice of our collectors, when during a collecting trip at the Umbagog Lake, Maine, I procured a specimen on June 3, 1872, and on the following day, in company with Mr. Wm. Brewster, obtained two more. In a communication from Geo. A. Boardman, Esq., he states that on June 2, 1872, he obtained a female at Calais, Me., the only one, however, which he has met with. We did not hear of the Vireo again until September, 1874, when Mr. Brewster took six specimens at Lake Umbagog. On September 11, 1875, I procured a female at the foot of Ripogenus Lake, a beautiful sheet of water situated about one hundred and fifty miles northeast from the Umbagog Lake, and observed two others. There was an immense migration of Warblers, Sparrows, and other species on that morning, and the specimen taken was in company with the Red-eyed and Yellow-throated Vireos.\*

All these specimens were undoubtedly on or near their breeding-grounds, and although but few pass through the coast States, yet it is strange that the species should have escaped the notice of the many watchful collectors of the present day until Mr. Brewster procured a specimen in Cambridge, Mass., on September 7, 1875 (see Bulletin No. 1, p. 19). Three specimens were taken during the first week of June, 1876, at Lake Umbagog, in which locality it now must be considered as a summer resident.—  
RUTHVEN DEANE.

GEOGRAPHICAL VARIATION IN THE NUMBER AND SIZE OF THE EGGS OF BIRDS.—It is not surprising that the now well-known law of geographical variation in size among birds should find expression in the eggs of birds as well as in the birds themselves. I have only recently, however, met with satisfactory proof of the fact, for which proof I am indebted to the kindness of Captain Charles Bendire, U. S. A. Under date of May 21 (1876), Captain Bendire wrote me as follows: "The geographical variation in size among North American birds holds true also in respect to

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\* This is the most northern locality in Maine at which I have known the Yellow-throated Vireo to occur.

their eggs. I find, for instance, in *Icteria viridis* var. *longicaudata*, that in the vicinity of Fort Lapham, Idaho Territory, where the species breeds abundantly, that they almost invariably lay four eggs; while near Tucson, Arizona, where I took at least eighty of their nests, they lay only three, and the size of the eggs is so very much smaller, in some cases fully one half, that they might easily be taken for eggs of an entirely different species. I find that the farther south you go, the eggs of the same species become smaller, and the number laid as a full nest complement is also less, as a rule. Of course there are some exceptions." He says later, in reply to further inquiries from me respecting this matter, that his attention was first drawn to this subject by the disparity in size and number of the eggs of this species at northern and southern localities. "Of course," he continues, "there is considerable variation in size even in the same localities when a number of sets of the same species are compared, but the assertion that in the North the eggs, as well as the birds, average larger than in the South is perfectly correct. I have abundant material in my own collection to prove this conclusively. Another illustration of the difference in size of eggs from points North and South is the following: Six eggs of *Molothrus pecoris* from the New England States measure as follows: (1) .99 X .65; (2) .97 X .67; (3) .88 X .67; (4) .90 X .68; (5) .85 X .64; (6) .76 X .63. Ten specimens of *M. pecoris* var. *obscurus*, from Arizona, measure as follows: (1) .82 X .60; (2) .81 X .59; (3) .73 X .65; (4) .75 X .61; (5) .74 X .58; (6) .73 X .58; (7) .72 X .58; (8) .70 X .58; (9) .70 X .56; (10) .67 X .51." This gives an average of .90 X .66 for the New England specimens, and .74 X .59 for those from Arizona.

The greater part of Captain Bendire's collection being now stored in St. Louis, while he is himself stationed in Oregon, prevents the presentation by him of other comparative measurements with which to further substantiate the above-given generalization of the smaller size of the eggs of birds of the same species at southern as compared with northern localities. His other statement of the smaller number of eggs laid at the southward is also one of great importance, and touches a point respecting which little has as yet been written.

Mr. C. J. Maynard, in his "Birds of Florida" (p. 24), refers to the "singular fact" that many species lay a smaller number of eggs at the South than at the North, and informs me that he has also noticed the fact of their smaller size at the southward.—J. A. ALLEN.

THE NEST AND EGGS OF TRAILL'S FLYCATCHER, AS OBSERVED IN MAINE.—The structure of the nest, its situation, and the eggs of this species (*Empidonax trailii*), as found in the above-named State, are all quite different from Mr. H. W. Henshaw's description of them, as given in the first number of this "Bulletin." The nest is built between the upright shoots of low bushes, from one to five feet from the ground, and is loosely constructed of grasses throughout, including the lining. It is a much less compact nest even than that of the Indigo Bird, though perhaps

smaller in the average. The eggs are of a pale creamy white, with reddish-brown dots, spots, or blotches of two shades, disposed chiefly about the larger end. This brief account is based on specimens obtained about Lake Umbagog, Upton, and at Bethel, Maine, by Messrs. William Brewster and H. B. Bailey, and at Gorham, N. H., by Messrs. George Welch and Duxbury Moon. I have lately seen nests and eggs of both *E. acadicus* and *E. traillii* collected at Columbus, Ohio, by Dr. J. M. Wheaton. Singularly enough, that of the former (*E. acadicus*) bears a close resemblance in its structure to that of Maine specimens of Traill's Flycatcher, while the compact felted character of the latter (*E. traillii*) is entirely unlike any nest of this species from the Canadian fauna. The eggs of the Ohio nests are in each case of a decided buff color as compared with Northern ones.

In this connection I would ask if it has been observed whether the ground color and markings of the eggs of species breeding in northern latitudes are of a lighter tint than those of the same kind laid in austral limits, — that is, does intensity of color hold good in eggs as it does in plumage? — H. A. PURDIE.

SINGULAR FOOD OF THE LEAST BITTERN. — Upon examining the stomach of a male Least Bittern (*Ardetta exilis*) shot at Belmont, Mass., May 11, 1878, I found that organ fairly crammed with white, clean cotton wool. The greater portion had evidently been swallowed in one lump, but there were several smaller flakes. Among them were several slender white worms, and many others of a similar appearance were coiled around the intestines. Under such conditions one would hardly expect the post-prandial sensations of the bird to be of an agreeable nature, but the bird seemed to be in good health and spirits. — WILLIAM BREWSTER.

INTELLIGENCE OF A CROW. — A tame Crow (*Corvus americanus*) in my possession has repeatedly amused me by the novel method he adopts to rid himself of parasites. For this purpose he deliberately takes his stand upon an ant-mound, and permits the ants to crawl over him and carry away the troublesome vermin. The operation seems mutually agreeable to all parties, the ants quickly seizing upon the parasites and bearing them away. I have also noticed the same habit in another tame Crow that I formerly had in my possession. — ABBOTT M. FRAZER.

THE GREAT CAROLINA WREN IN MASSACHUSETTS. — The Great Carolina Wren (*Thryothorus ludovicianus*) has not previously been recorded as a visitor to Massachusetts, but there are at present two apparently passing the summer in a small wooded swamp near Boston. It is believed that they have arrived since the 4th of July, soon after which time my attention was attracted by their loud notes, which I immediately recognized, through their general likeness to the notes of other Wrens, and the descriptions of Wilson and Audubon. It is further believed that they are now building, or have recently built, their nest, since they remain persistently in one neighborhood, the female being rarely seen, though the male often visits the shrubbery about the house. — H. D. MINOT.

# BULLETIN

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### OUR PRESENT KNOWLEDGE OF THE NIDIFICATION OF THE AMERICAN KINGLETS.

BY ERNEST INGERSOLL.

IN the hope of eliciting from some of the many readers of The Bulletin further information concerning the breeding habits of the American Kinglets, or at least of putting them upon the alert for further information, I have deemed it well to bring together what is at present known respecting the nidification of these birds.

Of the breeding of the Ruby-crowned Kinglet (*Regulus calendula*, Licht.) not much is known, although the bird is found, at different seasons, in all parts of North America. In the Rocky Mountains it breeds among the most elevated forests. Mr. J. A. Allen found young in July near Mount Lincoln, Col.; Mr. Ridgway gives it as breeding among the peaks of Northern Utah; and Mr. Henshaw in Arizona. It is also supposed to breed in Northern New Jersey, in Western New York, in Maine, and in the islands of the Bay of Fundy. In Western New York a nest which contained young was reported to have been built in the fork of a tree. Males and females have both been observed in summer about Chestnut Hill, Philadelphia, and Mr. Gentry thinks it nests on the wooded heights along the Wissahickon. Dr. Coues, in his "Birds of the Northwest," considers that he has sufficient evidence to show a breeding-range throughout the mountains of the West, from nine thousand feet upward, thence trending eastward along the northern boundary of the United States to Maine and Labrador, and probably sending a spur southward along the Alleghany Mountains. Northwestward it reaches Alaska.

The most satisfactory information is furnished by Mr. J. H. Batty, who found a nest near the Buffalo Mountains in Colorado, on June 21, 1873, which contained five young and one egg. The nest was on the branch of a spruce-tree, about fifteen feet from the ground, and was so large "that it could scarcely be got into a good-sized coffee-cup." It is described as "a loosely woven mass of hair and feathers, mixed with moss and some short bits of straw." The egg, Mr. Batty tells me, was very much like that of the common House Wren, but a little lighter in color. Both parents were assiduously bringing larvæ of insects to the young, whose appetites were unappeasable. Mr. Henry W. Henshaw also reports finding a neatly finished nest on a mountain near Fort Garland, Col. It was built on a low branch of a pine, and the male was singing directly overhead; but although he waited some time, Mr. Henshaw did not see the female. "The nest was a somewhat bulky structure, very large for the size of the bird, externally composed of strips of bark, and lined thickly with feathers of the Grouse." Of the eggs of this Kinglet nothing further is known.

Little more can be said in respect to the Golden-crested Kinglet (*Regulus satrapa*, Licht.). Its range is nearly as extensive, but more northerly; it does not descend in winter beyond Mexico. Nothing is known with certainty of its breeding anywhere in the United States, although it may be found to do so in the northern mountainous portions. Mr. Thomas G. Gentry is confident that it nidifies in cavities in the tall trees which crown the heights of Eastern Pennsylvania, despite the generally accepted notion that it follows its foreign cousin in building a pensile nest and laying white eggs, finely sprinkled with buff dots, in size about equal to those of Humming-birds. It has also been inferred that this Kinglet raises two broods in a season. Mr. Nuttall and Dr. Cooper both found it feeding full-fledged young on the Columbia River, on May 21; and Audubon observed the same thing in Labrador in August. Mr. Maynard found it common at Lake Umbagog, Me., in June; he says it breeds there, and that, judging from the condition of female specimens dissected, it deposits its eggs about June 1. Several pairs were found in the thick woods there, but no nests could be discovered; he thought they built, probably, in the long hanging-moss so abundant on the trees in those northern forests. Mr. Herrick puts it down positively as breeding on the island of Grand Menan, and Dr. Brewer in Maine. Mr. Allen informs me that he met with

young, attended by the parents, the third week in August, 1876, on Mount Monadnock, New Hampshire, which he has no doubt were hatched in the immediate vicinity. Mr. J. K. Lord states that these birds were abundant on Vancouver's Island and the adjacent coast, where he found them building pensile nests suspended from the tips of high pine branches, in which they laid from five to seven eggs. He does not describe the eggs, which was hardly to be expected, perhaps, considering the half-use he seems to have made of his opportunities.

Herr F. W. Baedeker has figured the egg in the "Journal für Ornithologie" (1856, p. 33, Pl. I, Fig. 8), and also in his large work on the eggs of the birds of Europe. Dr. Coues observes, in a private communication to me, "The plate indicates a rather roundish egg, though the two specimens figured differ noticeably in size and shape; they are spoken of in the text as 'niedliche kleine Eirchen mit lehmgelben ben Flekschen auf weissen Grunde,' and compared with those of other species illustrated on the same plate."

*Regulus curvieri*, described by Audubon from a specimen taken near the banks of the Schuylkill River, has remained unknown to ornithologists ever since.

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#### NESTING HABITS OF THE CALIFORNIAN HOUSE WREN (*TROGLODYTES AEDON* VAR. *PARKMANNI*).

BY DR. J. G. COOPER.

THE little fellows who require such a triple scientific name, according to the latest fashion in nomenclature, have this year exhibited in my garden a remarkable characteristic or habit, which, if not confined to the western race, has never been recorded of those individuals found in the northeastern section of the Union, though it may be looked for in the longer summers of the southern and interior States.

The well-known fact that during the season of incubation the males usually busy themselves in building several nests in places where they seem quite unnecessary, has always been attributed to a sort of whim or desire for occupation, or to a judicious foresight; providing thus against a possible destruction of the first nest.

But it seems that here, at least, one extra nest is sometimes used for the purpose of raising an additional family by a single pair of wrens simultaneously with the first brood! This would scarcely appear credible if not made certain by close observation of the pair during the whole breeding season, while no others were seen within a circuit of a quarter of a mile. Like all other summer visitors, these birds arrived much later this year than last, none appearing until about April 20, though some winter within one hundred miles to the southward. Whether the same pair returned, mentioned to have built here last year (in my article in the "American Naturalist" for February, 1876, p. 90), is uncertain. I believe that one of that pair was killed by a cat, and the brood of young were certainly destroyed, June 14, by an unusually late and heavy rain, which ran from the eaves of my house into their box, after which the remaining parent bird disappeared. The present pair, however, lost no time in building, and, as if suspicious of their former home, built first in a house on the top of a post twelve feet high, which was occupied by a pair of *Hirundo bicolor* last summer. As soon as the nest was finished, the male began to build another in the old residence, which I had moved to a safer place, where rain could not reach it. The female rarely assisted in this work, though I occasionally saw both there, and in due time the second nest was finished. Soon after the young in the first nest were hatched, and although needing much attention, the old birds still frequented the new nest, and I began to suspect that one of them was sitting on eggs there. This suspicion was soon verified by hearing the young, and seeing them fed. In this case each parent must have been sitting at the same time on a nest, perhaps taking turns, during the week that elapsed before the first hatching.

The day after the first brood of six left its house, they reappeared at evening under the lead of the female, and all roosted there, the male meanwhile continuing to feed the other brood, and singing at almost every visit to them, from which circumstance I distinguished him. The next day, however, he seems to have taken charge of the fledged family and led them away to the groves, out of the reach of town cats, as after that the songless female alone attended to the remaining brood.

As confirming the probability of one pair being able to raise two broods, I may quote from Dr. Brewer the experiment by which one female was induced to lay twenty-five eggs in one season, eighteen

being successively taken, and the remaining seven hatched. I have not seen any evidence of a second brood being raised here *after* the first, very few birds of any kind doing this, on account of the scarcity of insect-food after the dry season is advanced, or in July.

The first brood left the nest June 5; the second on the 16th, which also consisted of six.

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#### ON GEOGRAPHICAL VARIATION IN DENDROICA PALMARUM.

BY ROBERT RIDGWAY.

A very remarkable variation in colors, accompanied by less striking difference of size, from east to west, in this species, was first brought to my notice by a casual examination of the specimens contained in the National Museum, specimens from the Atlantic States appearing at first sight to be very much brighter colored than those from the Mississippi Valley, with somewhat different markings, and also larger in size. Examples from the West Indies, where, in part, the species passes the winter, are, so far as seen, entirely referable to the western form, as are also those from Western and Southern Florida. The circumstance that West-Indian specimens are identical with those from the Mississippi Valley is conspicuously in contrast with the case of *D. dominica*, in which the relationship is reversed, West-Indian specimens being identical with those from the Atlantic States, while examples from the interior States agree with those taken in Mexico and Honduras. The *D. dominica*, however, is resident in the southern portions of its range, while *D. palmarum* is one of those species which pass mainly north of the United States to breed.\* Another fact in connection with the present bird is the notable exception which it constitutes in the matter of climatic variation to certain laws under this head, it being usual for specimens from the Mississippi Valley to be, if any different, brighter than those from corresponding latitudes on the Atlantic Coast. The variation would therefore appear to be entirely with longitude, so far as geographical considerations are concerned, and not to be explained by any known climatic laws.

This is written with the most positive assurance that such a wide

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\* *D. palmarum* has not been recorded from any part of Mexico or Central America.

difference does exist in this species between specimens from the country eastward of the Alleghanies and those from the Western States of the Eastern Sub-region, for not only does the ample series of specimens examined indicate such a difference, but evidence accumulated by correspondence confirms it. After examining all the material accessible I deemed it prudent, in order to make sure that the variations noted were not in part of an individual character, to call the attention of others to the subject. Accordingly, a pair of the western form (from Southern Illinois), in spring plumage, of which the male was unusually bright, were despatched to Mr. William Brewster, of Cambridge, Massachusetts, with the request that they be compared with his New England series, as well as with other local collections in Cambridge, while at the same time a typical example of the eastern style was mailed to Mr. E. W. Nelson, of Chicago, Illinois, with the same request. The replies of these gentlemen have been received, and fully establish my previous conclusion that the differences were strictly geographical. Mr. Brewster's letter reads as follows:—

"I have very carefully compared the birds sent with my series of twenty Massachusetts specimens, and find that they differ *widely* from any that I have ever taken here. The decided yellow of the entire under parts and the chestnut markings are *constant* in our bird, and subject to but a limited amount of variation, and this chiefly sexual. The dullest fall female in my series is much brighter beneath than your spring male. Again, your birds are clear brown above, from the occiput to the rump, while mine all have a greenish-yellow cast; the lower eyelid in your specimens is white, while in mine it is as decidedly yellow as the superciliary stripe; and, lastly, the markings on the lower parts, though more numerous, are brown instead of chestnut, and of a different shape, being mostly linear instead of tear-shaped. . . . A pair of these birds from Florida agree very well with your specimens, after making due allowance for difference of season, they being winter birds. I saw at a glance that the birds you sent were totally different in color from any that are ever taken here, and as I have probably examined one hundred Massachusetts specimens altogether, I can assure you positively that the form you sent never occurs here at any season."

Mr. Ruthven Deane, of Cambridge, also examined the pair sent for inspection, and has this to say of them: "I have compared your two specimens of *D. palmarum* with mine, and find that they differ in the respects of which Mr. Brewster has written you. The

back of your specimens is considerably darker than in Massachusetts birds, and lacks the sprinkling of the yellowish feathers ; the markings on the breast are much finer and less conspicuous in your specimens, and the stripe under the eye is invariably yellow in Massachusetts specimens. In fact, your birds are considerably different at a glance, and if they are typical of the Illinois bird I should think they represent a well-marked variety." Mr. Nelson's reply, received at the same time, is equally to the point : "The specimen of *D. palmarum* came to hand this morning. There is a great difference in intensity of coloration between this specimen and any I have seen or taken here, the one from Baltimore showing much brighter and purer yellow on the under parts, while the crown and spots on the breast are much clearer and brighter chestnut. I do not remember ever taking a specimen here in which the markings on the breast were so few, *and confined to the sides*, western specimens having the streaks extending uniformly across instead of having a nearly immaculate space between the two clusters of spots at the bend of the wing. As to fall specimens, the only observable difference is that they are much duller in color, more like the female of *Perissoglossa tigrina*." Mr. A. L. Kumlien, of Busseyville, Wisconsin, an experienced collector and accurate observer, examined the series with me, and stated his belief that no such specimens as those before him from the Atlantic States ever occurred in Wisconsin, and was positive he had never seen similar ones from that portion of the country.

The following are the specific characters of *Dendræca palmarum*, and the diagnoses of the two subspecies, or geographical races : —

COMMON (SPECIFIC) CHARACTERS. — No distinct bands on wing-coverts. Inner webs of two outer tail-feathers with large terminal patch of white. Crissum clear yellow. *Adult* : Below more or less yellow, the sides of breast streaked ; a yellow or whitish superciliary stripe. Pileum uniform chestnut in spring and summer, or brownish streaked with dusky in fall and winter, but usually with more or less of chestnut beneath the surface. Above nearly uniform olive, becoming brighter, more yellowish-green, on rump and edges of tail-feathers. *Young* : Above dull grayish, streaked everywhere with dusky ; below dirty whitish, tinged with yellow, the throat, breast, and sides heavily streaked with dusky ; wing-coverts slightly tipped with buff. Wing, 2.35 — 280.

#### SUBSPECIFIC CHARACTERS.

*Subsp. palmarum*. — Wing, 2.35 — 2.65 (2.52) ; tail, 2.05 — 2.45 (2.24) ; bill, from nostril, .27 — .32 (.29) ; tarsus, .71 — .80 (.76). Yellow of lower

parts interrupted by a whitish abdominal area ; breast streaked uniformly across, the streaks being linear, and dusky, with little if any tinge of chestnut ; lower eyelid whitish ; back dull olive-brown. *Habitat.* Mississippi Valley (north to Great Slave Lake) and West Indies. Casual in certain Atlantic States.

Subsp. *hypochrysea*. — Wing, 2.50 – 2.80 (2.69) ; tail, 2.25 – 2.55 (2.43) ; bill, from nostril, .28 – .32 (.30) ; tarsus, .75 – .80 (.79). Yellow of lower parts entirely continuous, and much brighter ; streaks confined mostly or wholly, to sides of breast, broadly tear-shaped, wholly reddish-chestnut ; lower eyelid bright yellow ; back greenish-olive. *Habitat.* Atlantic States, from East Florida to Nova Scotia.

#### *Dendroica palmarum.*

##### Subspecies *palmarum*.

*Le Bimbelé, ou la Fausse Linotte*, BUFFON, Ois., V, p. 330 (St. Domingo). *Palm Warbler*, LATH., Synop., II, pt. 2, p. 498.

*Motacilla palmarum*, GMEL., S. N., I, 1788, p. 951. *Dendroca palmarum*, BAIRD, Birds N. Am., 1858, 488 ; et Auct. (part).

*Habitat.* Mississippi Valley during migrations ; breeding in the interior of, British America, wintering in the Gulf States, from Texas to Western and Southern Florida, and West Indies (Cuba, Jamaica, Santo Domingo, and Bahamas). Casual in certain Atlantic States (but not in New England !). Carlisle, Penn., April, May, and September ; District of Columbia, April and October. (Specimens in Nat. Mus.)

*Adult Male in Spring* (No. 915, Mus. R. R., Mount Carmel, Illinois, April 22, 1869. *Brightest in the entire western series*). Beneath yellowish-white, tinged with yellow, the throat and crissum deepening into gamboge ; sides of the neck, sides, and entire breast, streaked with umber-brown, tinged with rusty, the shafts of the feathers darker ; a distinct superciliary stripe of clear yellow. Pileum uniform rich chestnut, darker next the bill, where divided medially by a short and indistinct streak of yellow. Upper parts in general olive-gray, deepening into yellowish olive-green on the upper tail-coverts. Tail-feathers dusky, edged externally with pale olive-yellowish, the two outer pairs with their inner webs broadly tipped with white. Wings dusky, the remiges edged like the tail-feathers, with yellowish olive-green ; both rows of coverts tipped with pale grayish-buff, forming rather distinct indications of two bands. Wing, 2.55 ; tail, 2.30 ; bill, from nostril, .30 ; tarsus, .80.

Most other males in the series before me are rather duller than the one described. A specimen from Carlisle, Penn. (No. 152, Mus. S. F. Baird, April 26, 1845, — presumably a male), differs merely in the more indistinct character of the streaks along the sides, those of the breast being almost obsolete. One of the brightest males in the entire series is one in Mr. Nelson's collection (No. 2,072, Waukegan, Ill., April 12, 1876). This,

however, is scarcely different from the one described, the only obvious difference being the somewhat brighter yellow on the breast, and the greater amount of chestnut in the streaks of the side of the breast. The palest male is also a Waukegan specimen (No. 2,073, Mus., E. W. Nelson, April 28, 1876), which has the posterior half of the superciliary stripe white and the whole breast whitish, the pure yellow being thus restricted to the throat and crissum.

*Adult Female in Spring* (No. 2,786 Mus. R. R., Mt. Carmel, Ill., Spring; S. Turner). Similar to the male, as described above, but pileum mixed chestnut and dark umber-brown, *distinctly streaked* with dusky. Wing, .235; tail, .205; bill, from nostril, .28; tarsus, .71.

A female in my collection, from Calumet, Ill. (May 12, 1875), is considerably paler and duller, the lower parts being whitish tinged with yellow on the throat and jugulum, the crissum only continuous yellow; even the superciliary stripe is white from the eye backward. The pileum is grayish-olive, like the back, tinged in one or two places with chestnut, and very indistinctly streaked. The streaks on the sides are almost obsolete, but across the jugulum they are quite well defined.

*Adult (both sexes) in Winter.* Lower parts dirty whitish, the breast and sides with narrow streaks of grayish brown; *throat and superciliary stripe wholly dirty whitish; yellow entirely confined to the crissum*, except a tinge on the abdomen, and along the edge of the wing in some specimens; crown grayish-umber, with but little, if any, tinge of chestnut, and distinctly streaked with dusky.

This plumage is that of all late fall and winter specimens, whether from far north or the West Indies. I have seen no specimens from the latter region in the spring plumage.

#### Subspecies *hypochrysea*.

*Dendreca palmarum*, AUCT., in part.

*Dendreca palmarum hypochrysea*, RIDGWAY.

*Habitat.* Atlantic States, from East Florida (in winter) to Nova Scotia. Breeding in Maine and northward, and wintering in the South Atlantic States; apparently not found at all in West Indies, nor in Southern or Western Florida!

*Adult Male in Spring* (No. 2,164, Mus. R. R., Cambridge, Mass.; W. Brewster). Entire lower parts, and a conspicuous superciliary stripe, bright yellow, *entirely continuous and uniform beneath*; entire sides marked with broad streaks of deep chestnut, these most distinct on the sides of the breast. Auriculars mixed olive and chestnut (the latter prevailing), somewhat darker immediately behind the eye; lore with an indistinct dusky streak. Entire pileum rich chestnut, becoming darker next the bill, where divided medially by a short and rather indistinct yellow streak. Rest of the upper parts olive, tinged with brown on the back, and bright-

ening into yellowish olive-green on the rump and upper tail-coverts, the latter having shaft-streaks of reddish-chestnut. Tail-feathers dusky, edged externally with yellowish-olive, the inner webs of the two outer feathers broadly tipped with white. Wings dusky, all the feathers edged with pale brownish-olive, this edging rather widest on the ends of the middle and greater coverts, where, however, they do not form any indication of bands. Wing, 2.65 ; tail, 2.50 ; bill, from nostril, .30 ; tarsus, .80.

The above description will apply almost equally well to the generality of bright-colored males in the series, except that the chestnut streaks on the upper tail-coverts are not found in any of the others ; there is considerable individual variation in the amount of the chestnut on the cheeks, but the auriculars seem to be never entirely of this color.

*Adult Female in Spring* (No. 63,155, Nat. Mus., Cambridge, Mass. ; H. W. Henshaw). Entirely similar to the male, as described above, except that the chestnut of the pileum is rather lighter, and less abruptly defined posteriorly, the chestnut streaks absent from the upper tail-coverts, no tinge of chestnut on the auriculars, which are plain olive, and size smaller. Wing, 2.60 ; tail, 2.40 ; bill, from nostril, .32 ; tarsus, .75.

A female from Nova Scotia, in breeding dress (parent of eggs in Nat. Mus.), is entirely similar in color, but rather smaller in size. Wing, 2.50 ; tail, 2.30 ; bill, from nostril, .30 ; tarsus, .75.

*Adult in Autumn* (No. 2,567, Mus. R. R., Washington, D. C., October 10, 1861 ; E. Coues). Generally similar to the spring male, as described above, but the chestnut of the pileum overlaid and almost entirely concealed by olivaceous tips of the feathers ; no tinge of chestnut on the auriculars, which are grayish-olive. *Yellow beneath as bright and continuous as in spring*, but chestnut streaks much less distinct. Markings generally less distinct, and colors more suffused ; tips of wing-coverts and edges of tertials decidedly brownish.

A specimen from Carlisle, Penn., in the same plumage (No. 783, Mus. S. F. Baird, October 7, 1842), differs merely in being more brownish above. The measurements of this and the preceding may be found in the accompanying table.

*Adult in Winter* (No. 59,811, Nat. Mus., Hibernia, Florida, February, 1870 ; G. A. Boardman). Similar to the autumnal plumage, but less brownish above.

*Young, first Plumage* (No. 2,807, Mus. R. R., St. Croix R., Maine, July 20, 1874 ; G. A. Boardman). Above grayish-brown, distinctly streaked with dusky, the streaks broader on the back, where they widen at the end of the feathers ; both rows of wing-coverts narrowly tipped with pale buff ; tertials edged externally with rusty cinnamon ; rump and outer edges of primaries and rectrices yellowish olive-green ; upper tail-coverts pale rusty-cinnamon. Lower parts mostly dull whitish, tinged on the throat and abdomen with lemon-yellow, the throat, breast, and sides heavily streaked with dusky ; crissum and edge of the wing bright yellow.

## LIST OF SPECIMENS EXAMINED.

Subspecies *palmarum*.

Number.	Museum.	Sex and Age.	Locality.	Date.	Wing.	Tail.	Bill from Nostril.	Tarsus.
19506	U. S.	♂ ad.	Ft. Resolution, Br. Am.	June 1	2.65	2.40	.28	.80
28620	"	— "	Cuba (Monte Verde).	Winter	2.40	2.20	.30	.76
28623	"	♂ "	"	Jan. 17, 1861	2.60	2.30	.30	...
12192	"	— "	District of Columbia.	Spring	2.65	2.30	.30	.78
6494	"	— "	Florida (Indian Key).	Mar. 28	2.65	2.40	.30	.80
8647	"	— "	Cape Florida.	Oct. 27, 1857	2.50	2.30	.30	.75
22260	"	— "	Macon, Georgia.	April, 1848	2.60	2.25	.31	.80
152	S. F. B. *	♂ "	Penn. (Carthage).	Ap'l 26, 1845	2.40	2.25	.28	.75
54	"	— "	" "	May 2, 1840	2.45	2.25	.30	.75
738	"	— "	" "	Sep. 20, 1842	2.45	2.25	.29	.75
946	"	— "	" ?	Winter	2.60	2.30	.30	.80
945	"	— ?	"	"	2.55	2.30	.28	.78
1843	E. W. N. †	♀ "	Illinois (Waukegan).	May 12, 1875	2.40	2.10	.30	.75
2072	"	♂ "	" "	Ap'l 12, 1876	2.50	2.20	.28	.80
2073	"	♂ "	" "	Ap'l 28, 1876	2.60	2.30	.30	.78
2074	"	♂ "	" "	[May 12, 1876]	2.45	2.15	.28	.78
2075	"	♂ "	" "	" "	2.50	2.15	.28	.75
1534	E. C. ‡	— "	District of Columbia.	Oct. 1, 1859	2.50	2.45	.28	.80
—	P. L. J. †	♂ "	" "	Oct. 11, 1861	2.60	2.35	.30	.80
915	R. R. §	♂ "	Illinois (Mt. Carmel).	Ap'l 22, 1869	2.55	2.30	.30	.80
2786	"	— "	" "	Spring	2.35	2.05	.28	.71
—	"	— "	(Englewood).	[May, 1874]	2.60	2.25	.30	.80
—	"	— "	Calumet.	May 12, 1875	2.40	2.15	.30	.72
—	"	— "	Wisc. (Bassettville).	May 2	2.55	2.20	.30	.80
—	"	— "	" "	May 14,	2.45	2.05	.27	.80
—	"	— "	" "	Autumn	2.50	2.10	.30	.75
Average,.....					2.52	2.24	.29	.76

Subspecies *hypochrysea*.

Number.	Museum.	Sex and Age.	Locality.	Date.	Wing.	Tail.	Bill from Nostril.	Tarsus.
10296	U. S.	— ad.	Mass. (Sherborn).	Summer	2.80	2.40	...	.80
28629	"	♀ "	Nova Scotia.	June	2.50	2.30	.30	.75
59611	"	— "	Florida (Hibernia).	Feb., 1870	2.80	2.50	.28	.80
68155	"	♀ "	Mass. (Cambridge).	Spring	2.60	2.40	.32	.75
788	S. F. B. *	♂ "	Penn. (Carlisle).	Oct. 7, 1842	2.75	2.55	.30	.80
2164	R. R. §	♂ "	Mass. (Cambridge).	Spring	2.65	2.50	.30	.80
2667	"	— "	District of Columbia.	Oct. 10, 1861	2.75	2.50	.30	.80
2083	"	— "	Mass. (Cambridge).	Spring	2.55	2.30	.30	.80
—	"	— "	Maryland (Baltimore).	"	2.75	2.50	.32	.80
Average,.....					2.69	2.43	.30	.79

\* S. F. Baird.

† E. W. Nelson.

‡ E. Coues.

|| P. L. Jouy.

§ R. Ridgway.

## NOTES ON TEXAN BIRDS.

BY J. C. MERRILL, M. D., ASSISTANT SURGEON, U. S. A.

I. *Five Species of Birds new to the Fauna of the United States.*

I have recently obtained the following species, new to the fauna of the United States, in the vicinity of Fort Brown, Texas:—

1. *Molothrus senous*, Wagler. This species, next to *Quiscalus major* var. *macrurus*, is the most abundant of the family here during the summer months, and it is strange it was not obtained by earlier collectors. Professor Baird informs me that specimens forwarded to him may constitute a variety.

2. *Myotidromus albicollis*, Slater. In Baird, Brewer, and Ridgway's "Birds of North America" (Vol. II, p. 399), mention is made of the possible occurrence of this species within our limits. My first specimen was taken within Fort Brown on the 1st of April of this year. On May 2, while in camp some sixty-five miles up the river (Rio Grande), I obtained a female as she flew up from her two eggs; and on the 15th of the same month a second set of eggs was found near the place where the first were obtained. The characteristic notes heard every evening showed that this species was by no means rare.

3. *Pyrrhophæna rieffeli*, Bourc. This Mexican and Guatemalan species of Hummer is identified by Mr. Ridgway from my description of a specimen taken here last June by a soldier. He wished to keep it, but it escaped in a day or two. A second specimen was shot here a few weeks later, determined by Mr. Ridgway to be this species.

4. *Parra gymnostoma*, Wagler. Early in August I saw a pair of water-birds quite new to me on the borders of a lagoon near Fort Brown. I was on horseback at the time, and did not have my gun, but had a good opportunity to observe them carefully. The next day I winged one of them, but it fell into a dense bed of water-plants, and could not be found, and the survivor disappeared. Respecting a letter describing the bird as seen, Mr. Ridgway writes: "The bird you describe is undoubtedly *Parra gymnostoma*; . . . the chestnut back and yellow (greenish-yellow) wings settle the species beyond a doubt."

5. *Podioceps dominicus*, Lath. This species was first obtained early in March, three specimens being killed at one shot. I have also seen them in April, May, and August, in the shallow lagoons about here.

II. *On the Breeding Habits, previously unknown, of two Species of North American Birds.*

*Embernagra rufivirgata*, Lwir. This little-known species is quite abundant in the vicinity of Fort Brown, Texas. During the past season I searched in vain for its nest on the ground, where it seemed almost certain it would be found, on account of its eminently terrestrial habita. No nest was taken, however, until August 5, when one was found within the limits of the fort, placed on a sapling about four feet from the ground ; it contained two eggs. On returning two days later, the female was obtained as she left the nest, to which a third egg had been added. Dissection showed that no more would have been laid. The domed nest was neatly constructed of fine twigs and straws, the more delicate ones being used for the lining. The eggs are pure white, and are large for the size of the bird, averaging .90 by .66 of an inch.

On September 7 a second nest was found, in all respects like the first, except that it was lined with hair ; the two eggs were but slightly incubated, and do not differ from those first found.

*Xanthura incas var. luxuosa*, Bon. My first nest of this species was taken on the 27th of May, while in camp near Edinburgh (now Hidalgo), Texas, about seventy miles above Fort Brown, on the Rio Grande. It was placed on the horizontal branch of a waican-tree, about twenty-five feet from the ground, and was built of twigs and rootlets ; the cavity was slight, and the entire structure so thin that the eggs could be seen through the bottom. These were three in number, and were quite fresh. The ground-color is a grayish-white, thickly spotted with brown and pale lilac, especially at the larger end ; they average 1.11 by .82 inches. A second nest, found in the same vicinity May 8, was on a sapling seven feet from the ground ; it closely resembled the first one, and contained four eggs, three far advanced in incubation ; the fourth, which also differed in having the markings most numerous at the smaller end, was quite fresh. These eggs are shorter than the first set, averaging 1.01 by .80 ; in other respects they are much alike. During the latter part of the same month I found two more nests of this handsome bird ; they resembled the others in situation and construction, but I was obliged to leave before eggs were deposited in either.

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BIRDS OF NEW ENGLAND.

BY THOMAS M. BREWER.

My attention has been called to the paper in the September "Bulletin" signed "H. A. P." and I notice with surprise certain

strictures that are hardly deserved. My Catalogue of the Birds of New England was, at first, only intended to be a simple list, without note or comment, transferring to a challenged list such species given by others as my own judgment led me to question, and adding the names of recent additions. This list I gave for what it was worth, expecting and desiring to have it amended and improved. But this writer seems to have totally misapprehended, in several essential respects, the purpose proposed in my list. It was but an initiative towards a complete and reliable list of the birds of New England, based upon the sure foundation of undisputed *facts*. Mere opinions, no matter by whom held, crude inferences from insulated facts, and still less empty conjectures, without data, were of no value in my eyes, and wholly irrelevant. We had had quite too much of this already, and our local lists had been overloaded with, and rendered comparatively valueless by, smart guesses and shrewd anticipations of coming occurrences.

Nor was it any part of my original design to indicate the character of the presence of birds in the New England States. At the last moment, and when it could only be done very briefly, and therefore incompletely, my friend, Mr. J. A. Allen, persuaded me to add this feature, after the whole article was in type, and when it could only be done so far as was possible, without materially adding to its length. Of course the additions are very brief, and never exhaustive.

“H. A. P.” apparently not appreciating the real purport of these notes, is at the quite unnecessary pains to supplement them with additions, all of them more or less liable to exceptional criticism. For instance, *Turdus migratorius* is given by me as a general summer resident, which is certainly correct, so far as it goes. Of course the merest tyro in ornithology knows that the Robin is also migratory in the spring and in the fall, and also that birds of this species may be met with irregularly and occasionally during winter in various parts of New England. But these peculiarities are many-sided, and to have done the subject full justice, with proper discrimination, would have required more space than I had at my disposal. “H. A. P.” naively informs us that the Robin is a constant resident in Southern New England. If by this he intends to have us understand that the same individual Robins are constant residents with us, I take issue with him. I deny it to be a fact. The individuals of this species that occupy New England in the summer

leave before the approach of winter. Those who visit us in the winter are of a very different race, come from far beyond our limits, and do not remain with us after the approach of spring. More than this, these winter visits are not confined to Southern New England. In some seasons, and under certain conditions, Robins are more numerous in some portions of Northern New England, in mid-winter, where food is abundant, than I have ever found them in the southern portions. So far as my note on the Robin went, it was at least accurate, but the supplement of "H. A. P." is both inexact and calculated to mislead.

"H. A. P." asks if certain species, five in number, and named by him, are not shown by the records as birds to be retained. Having answered these questions to the best of my ability, in advance, and in the negative, I can only repeat that all the records we have in reference to them are unreliable, and that, in my judgment, these names should remain on the list of those requiring more evidence. One of them, *Nettion crecca*, will probably prove to be of occasional occurrence, but this I do not deem at all probable of the other four. If "H. A. P." can answer his own question, he should do so; if not, it is irrelevant.

"H. A. P." wanders from the path of legitimate criticism to accuse me of having withheld credit due to certain other and recent authorities, and in so doing ceases to be critical and becomes personal. I will only here remark, that his insinuations are both gratuitous and unjust. No one, other than myself, can know the extent or the limits of my knowledge, and no one has any right to assume how much of it is solely due to information derived from others. The limit to which I was restricted prevented my giving any extent of data, and where I depended upon authorities already made public, I was not at liberty so unnecessarily to swell my article as to repeat them. In every instance where there was any real occasion to do so, I have given due credit, so far as my limits permitted. And what makes this censure seem the more inconsistent and uncalled for is that, in his own paper, in which we find such an amount of sweeping generalizations, no credit whatever is given to any one else as having aided him in forming his conclusions. He has been either inconceivably fortunate in acquiring knowledge under difficulties, or he, too, has withheld the credit due to others for the data upon which he bases the positive dogmas he gives out in a manner quite *ex cathedra*.

I might go on and take up and criticise, one by one, each of these supplemental opinions, but as they are only opinions unsupported by facts, I view them as valueless. Some I know to be incorrect. *Vireo gilvus* and *Zenædura carolinensis*, for instance, to my certain knowledge, have been found very nearly, if not quite, throughout New England. Then, too, "H. A. P." and your humble servant do not appear to always attach the same significance to the same words, — "rare," for instance. With all due deference to his *opinions*, as expressed in all the instances where I have made use of this word, I must still adhere to my own, and am prepared to take issue with him squarely in every instance named by him where he challenges its use. Until he can produce the data for his sweeping declarations I am not prepared to admit the correctness of any of his unproven statements or inferences. I do not believe, for instance, that *Perisognathus tigrinus*, *Geothlypis philadelphus*, or *Contopus borealis* are "generally common" throughout Northern New England. Neither am I prepared to admit, without positive proof, that *Helminthophaga chrysopera* can be said to breed in any considerable numbers in Southern New England, nor does it, so far as I know, in any part of the United States. The mere *ipse dixit* of a single observer, and scattered insulated instances, do not afford even inferential data. The same holds true of *Coturniculus passerinus*, though a much more common bird, but the portion of Southern New England in which it breeds in considerable numbers regularly must be small indeed. So far as my own observations go, and so far also as I have been able to obtain information from others, "H. A. P." is not warranted in his sweeping statement that *Micropalama himantopus* is a regular migrant along the whole New England coast. But if he is better posted, and can produce the evidence to establish his views on this long-controverted point, such data are too valuable and would be too interesting to be suppressed. But let us have facts, not imaginative opinions, and these not insulated, but in sufficient numbers. As for *Anthus ludovicianus*, I speak of that which I do know when I repeat that I have found it, sometimes in large flocks, in open country near the coast, in Massachusetts, in midwinter, notwithstanding the negative testimony of "H. A. P." to the contrary.

But I will not occupy any further space by taking up, point by point, the various forms of difference of opinion between "H. A. P." and myself. I will only add, in conclusion, that I see nothing in his criticisms, unsupported as they are by facts, to induce me to

make any material changes in my own views. Our ornithological horizons have evidently not been the same, and consequently our conclusions are not always in unison. He is welcome to his own conjectures, inferences, and opinions, but I must be permitted to retain my own, "H. A. P." to the contrary notwithstanding, until he produces something of more weight than unsupported assertion.

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### Recent Literature.

**BIRDS OF SOUTHWESTERN MEXICO.**—Mr. George N. Lawrence has recently published\* his Report on the Birds of Southwestern Mexico, collected by Professor Francis E. Sumichrast, under the auspices of the Smithsonian Institution. The list embraces three hundred and twenty-one species, with valuable and occasionally quite copious field-notes by the collector. The paper is prefaced by several pages, by Professor Sumichrast, on the character of the avian fauna of Southwestern Mexico, which contain interesting generalizations respecting the distribution of the species.—  
J. A. A.

**JORDAN'S MANUAL OF VERTEBRATE ANIMALS.**†—This work, says the author, was written "to give collectors and students who are not specialists a ready means of identifying the families, genera, and species of our Vertebrate Animals. In deference to the uniform experience of botanists, and in view of the remarkable success achieved by Dr. Coues, in the application of the method to Ornithology, the author has adopted the system of artificial keys. . . . Use has been freely made of every available source of information, and it is believed that the present state of our knowledge is fairly represented." The task the author has here attempted seems to have been carefully done, and the work will doubtless prove of great value to the class for which it has been prepared. It indicates thorough acquaintance with the literature of the subjects treated, and well represents the latest and most approved views respecting the classification and no-

\* Birds of Southwestern Mexico, collected by Francis E. Sumichrast. Prepared by George N. Lawrence. Bull. U. S. National Museum, No. 4. Published under the direction of the Smithsonian Institution. Washington: Government Printing-Office. 1876.

† Manual of the Vertebrates of the Northern United States, including the District east of the Mississippi River, and north of North Carolina and Tennessee, exclusive of Marine Species. By David Starr Jordan, M. S., M. D., etc. Chicago: Jansen, McClurg, & Co. 1876. 12mo. pp. 342. Price, \$2.00.

nomenclature of the several classes of animals to which the work is devoted. With respect to the Mammals and Fishes, the author's plan of excluding the marine forms was doubtless, for various reasons, a wise one, especially in the case of the Cetaceans, concerning which our knowledge is still lamentably deficient. In respect to Birds, however, the desire for uniformity is the only obvious reason for not including the few strictly marine species, — a reason we deem quite insufficient for marring the otherwise praiseworthy completeness of the portion of the work devoted to this class. We notice, however, the absence of *Helminthophaga leucobronchialis*, while such species as *Euspiza townsendi* and *Ægiothos flavirostris* var. *brewsteri*, are included. A few species not yet recorded as found east of the Missouri are also included, though the western boundary of the district located is assumed to be the Mississippi River. But these are points that in no way seriously detract from the merits of the book. Several of the analytical tables of different groups of birds are based on or taken directly from Coues's key, and the latest and best authorities are followed for the other classes. Cope is closely followed for the Reptiles and Batrachians, while the Fishes show much original work. The Mammals are brought down to the literature of six months since, but several papers now in press or that have recently appeared will necessitate a few changes in nomenclature in future editions. In all cases the author gives liberal credit to the sources from which he has gathered his materials, as well as for aid more directly furnished.

On the whole, the author is to be congratulated on the success he has achieved in this difficult undertaking, combining in a work of convenient size and moderate cost a text-book of the Vertebrate Animals of the Northeastern States, reliable in character and sufficiently extended to guide the student with tolerable ease to the name of any species he may chance to have in hand. — J. A. A.

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### General Notes.

CAPTURE OF THE ORANGE-CROWNED WARBLER IN MASSACHUSETTS. — The Orange-crowned Warbler (*Helminthophaga celata*) must be regarded, so far as our present knowledge warrants, as a rare visitor to New England. Two only have been previously reported in Massachusetts,\* and these, with a third shot in New Hampshire,† fill the list of New England quotations.

\* One was taken at Springfield, May 15, 1863, by Mr. J. A. Allen (see Proc. Essex Institute, Vol. IV, p. 60), and the other at Lynn, Jan., 1875 (see Brewer, in Proc. Bost. Soc. Nat. Hist., Vol. XVII, p. 439).

† At Hollis, May 16, 1876, by Mr. W. H. Fox (Forest and Stream, Vol. VI, p. 354).

In view of this fact, the announcement of a third specimen for Massachusetts may be of interest. On October 2, 1876, while collecting at Concord, Mass., I shot a female of this species in fine autumnal plumage. When first observed it was gleaning industriously among some low, scattered birches, in company with several Black-throated Green Warblers (*Dendræca virens*), a few Black-polls (*D. striata*), and one or two Nashville Warblers (*Helminthophaga ruficapilla*). Its small size and dark colors first drew my attention to it, and led me to suspect its identity. It proved upon dissection to be a bird of the year. — WILLIAM BREWSTER.

**VARIABLE ABUNDANCE OF BIRDS AT THE SAME LOCALITIES IN DIFFERENT YEARS.** — It has probably been observed by most of our field ornithologists, that many of our rarer birds are to be found in larger numbers during some of their annual or semiannual visits than during others. This is an interesting fact ; but it is a fact of much greater interest that our commonest summer residents are similarly variable, and that, as a general rule, where one species varies in this respect, the deviation extends to all in the same degree. A small increase or decrease in the multitude of universally common species is, of course, less noticeable than a proportionate variation in the numbers of those which are less abundantly distributed ; but that the former are as regularly subject to such variation as the latter is beyond all doubt. So absolute and unchanging is this law, that its effects may be detected from the appearance of the earliest spring arrivals to the coming of the last of the vernal migrants. Should the army of Thrushes and Finches that arrive from the south about the last of March be unusually large and continuous, you may prophesy with almost entire confidence a good year for birds. In the vicinity of Portland the seasons of 1875 and 1876 have been remarkable in examples of extreme numerical variation ; the one for the paucity of rare species, the other for their abundance. During the past season (1876) White-crowned Sparrows occurred in almost unprecedented numbers, often appearing in flocks of six or eight ; the previous season but one was taken, to my knowledge. In 1876 specimens of the Mourning and Bay-breasted Warblers were taken ; the one new to the locality, the other not having occurred for six years. The Great-crested Flycatcher was common in 1876, rare in 1875. With a few exceptions, the same difference has been perceptible in the case of every species.

But what is it that exerts so potent an influence over our birds ? Not the weather, it would seem ; for heat or cold, storm or calm, causes but a slight difference in the time of the arrival of a species, much less in its numbers. An apparent auxiliary cause is the weather of the winter preceding the spring. If the winter be mild and rather free from snow, there is an evident increase in the numbers of the earliest arrivals in March ; but it can hardly be supposed that a bird which does not make its appearance till the last of May feels the effects of mild weather several

months before. The great body of migrants are said to pursue different routes to their northern homes at different seasons. Very true; but how about our summer residents?

I confess myself puzzled for a satisfactory solution to the question. The abundance or scarcity of birds in winter or autumn has been better explained. — N. C. BROWN.

**OCCURRENCE OF THE WOOD IBIS IN PENNSYLVANIA AND NEW YORK.** — I learn from Mr. C. J. Maynard, who saw and examined the specimen, that on June 21, 1876, a Wood Ibis (*Tantalus loculator*) was captured at Williamsport, Pennsylvania. It was reported to be one of a small flock seen flying northward. "Forest and Stream" (of July 20, 1876) records (on the authority of Mr. Frederic S. Webster) the capture of another specimen on June 24, at Troy, New York. The occurrence of this strictly southern species so far north of its usual range has not, I think, been before reported. While its usual northern limit in the interior is Southern Illinois, it has been reported as occurring in Ohio and Wisconsin, and Dr. Coues refers to its occurrence in Chester County, Pennsylvania, its previous most northern record on the Atlantic slope. — J. A. ALLEN.

**PECULIAR NESTING-SITE OF THE BANK-SWALLOW.** — Dr. Rufus Hammond, of Brookville, Indiana, writes, under date of June 5, 1876: "Two weeks ago I saw a Bank-Swallow building its nest in the east end of a frame paper-mill, about seventy yards from the depot, in which was placed the nest of which I have already informed you [see "American Naturalist," Vol. X, p. 373, June, 1876]. A weather-board had become detached from the building, leaving a small opening, in which I watched for two days a Bank-Swallow building a nest. Soon after the mill caught fire and was burned, of course destroying the nest and its contents. I have no doubt these birds will ultimately change their habits so far as to build their nests in any convenient place, especially in *pudlock* holes left open in brick buildings." I should, however, add that Mr. Ridgway ("American Naturalist," Vol. X, p. 493, Aug., 1876) questions whether the birds observed were not the Rough-winged Swallow (*Stelgidopteryx serripennis*), which nests as Dr. Hammond describes. — ELLIOTT COUES.

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OF THE

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### PROSPECTUS.

The desire in this country for a periodical exclusively devoted to Ornithology has long been apparent. To meet this want in some measure the Bulletin is issued. Papers received from resident and corresponding members of the Club, and read at its meetings and accepted, together with such matter pertaining to birds as may be gathered from other sources, will make up the contents. It is proposed to issue sixteen pages quarterly. Starting, however, with twenty-eight, we hope to receive sufficient aid, both literary and pecuniary, from all lovers of the science we represent, to warrant the continuation of a like number, and to make the work at least self-supporting. A plate cannot be promised in future unless the means assure it.

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The membership of the Club already includes all the leading ornithologists of the country, who have generously offered to give the Bulletin in every way their hearty support. The Publishing Committee hence feel confident of being able to make the Bulletin worthy of the patronage of all interested in the branch of science it represents. Contributions to the present volume have been promised by Professor S. F. Baird, Mr. George N. Lawrence, Dr. Elliott Coues, Mr. Robert Ridgway, and others already well known to the public. Professor Baird and Dr. Coues have also kindly consented to act as Associate Editors. Its chief editorial management will be under the direction of Mr. J. A. Allen, of the Museum of Comparative Zoölogy, Cambridge, Mass., to whom all communications intended for publication should be sent.

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### ANNOUNCEMENT FOR 1877.

As the present number closes Volume I. of the Bulletin, the first number of Volume II. will appear in January, 1877, and the succeeding numbers of the volume will be issued on the first of each following Quarter. In closing Volume I. the Publishing Committee take pleasure in announcing that the publication of the Bulletin has met with encouraging success. Not only have contributions to its pages been received from the best ornithological talent of the country, but subscriptions have come in with reasonable frequency. Since, however, the continuance of the Bulletin is necessarily contingent upon the pecuniary support it receives from the public, we trust that our present patrons will not only all promptly renew their subscriptions, but will use their influence to extend its circulation. It is hoped that with the second volume it will be possible to increase the number of pages from twenty-four to thirty-two in each issue. In order to do this a considerable increase to our subscription list will be necessary, and we therefore appeal strongly to all friends of ornithology to aid in extending its circulation.

In order to assist in defraying the expenses of publication, advertising sheets will be issued with future numbers, relating mainly to Natural History, and especially to Ornithology. The attention of dealers in specimens of Natural History and collectors' and taxidermists' materials, and of publishers of works relating to Natural History, is hence called to the Bulletin as a desirable advertising medium.

The present Volume embraces one hundred pages of original matter, contributed largely by leading authorities on American Ornithology. The department of "General Notes" is particularly rich in notices of rare or little-known species, and the volume as a whole forms an important contribution to American Ornithology. As the magazine will continue under its present editorial management, — Mr. J. A. Allen acting as Editor-in-Chief, and Professor S. F. Baird and Dr. Elliott Coues as Associate Editors, — and as it has the assurance of continued support from the best writers, the Publishing Committee do not hesitate to announce that Volume II. may be expected to be equally rich in important contributions. The Bulletin is intended to be national in its character, and for the present will be exclusively devoted to North American Ornithology. It being the only journal in this country devoted especially to ornithology, it is hoped that our appeal for pecuniary support will meet with a prompt response, and that we shall be able to enter upon the publication of Volume II. with feelings of confidence respecting the permanence of the Bulletin as an Ornithological Magazine.

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Editor,

J. A. ALLEN.

Associate Editors,

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No. I.

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THE BLACK-AND-YELLOW WARBLER (*DENDROCECA*  
*MACULOSA*).

BY WILLIAM BREWSTER.

FIRST impressions are apt to be most lasting, and in many cases are engraved upon the memory with a vividness that defies the effacing influence of time. Thus the Black-and-Yellow Warbler was one of my earliest bird acquaintances, and I shall not soon forget our introduction.

My family was spending a few days in a quiet little country town in New Hampshire, when, one hot summer afternoon, finding time hang heavily on my hands, I borrowed an old gun, and at the country store, where everything was sold from a patent coffee-mill to the latest specific for rheumatism, I purchased a supply of ammunition, and, thus equipped, took to the woods and searched a long time in vain for game. At length, entering a grove of thickly growing young spruces, I sat down to rest on a mossy log. I had been there but a short time when I became conscious of faint sounds in the trees above and around me, — chirpings, twitterings, and occasionally a modest little effort at song. Watching attentively, I soon spied a movement among the branches, and a tiny bird hopped out into the light, presenting a bright yellow breast and throat for just a moment before flying into the next tree. Here was a revelation! I already knew a few of the most familiar birds, — the Robin, the Bluebird, the Sparrow, the Oriole, and some others; but it had never occurred to me that dark forests like these might be tenanted by such delicate and beautiful forms.

Only the tropics surely could boast such gems. With enthusiasm now fairly aroused, and animated with the spirit of an explorer, I went at once to work to investigate, and in the course of an hour or two more my ammunition was nearly exhausted, and quite a line of poor, lifeless, mutilated little birds lay arranged along the old log. Resting my gun against a neighboring tree, I examined long and carefully the results of my work. Scarcely any two of my specimens were alike, and as I contemplated in amazement their varied forms and coloring, I felt like the discoverer of a new world, and doubted whether human eyes had ever beheld the like before. Finally, the deepening twilight brought an end to my reveries, and, collecting my prizes, I took my way homeward. Taxidermy being to me then a sealed book, I had recourse to pepper and salt as preservatives, but a few hot days settled the matter and proved the ruin of my collection. I can recall with sufficient distinctness for identification but a single bird of them all, — a fine adult male Black-and-Yellow Warbler, which at the time I considered the handsomest, and which I still think cannot be surpassed in beauty by any New England representative of the family. That afternoon was an unlucky one for the birds. It laid the foundation for a taste that has since caused the destruction of thousands of their tribe.

The Black-and-Yellow Warbler arrives in Massachusetts from the South about the 15th of May. During the next two or three weeks they are abundant everywhere in congenial localities. Willow thickets near streams, ponds, and other damp places, suit them best, but it is also not unusual to find many in the upland woods, especially where young pines or other evergreens grow thickly. Their food at this season is exclusively insects, the larger part consisting of the numerous species of *Diptera*. The males sing freely, especially on warm bright mornings. They associate indifferently with all the migrating warblers, but not unfrequently I have found large flocks composed entirely of members of their own species, and in this way have seen at least fifty individuals collected in one small tract of woodland. By the first of June all excepting a few stragglers have left. If we follow them northward, we find a few pairs passing the summer on the mountains of Southern Maine and New Hampshire. In July, 1875, I found them breeding, in company with the Blackburnian Warbler (*Dendræca blackburniæ*), the Snowbird (*Junco hyemalis*), the Golden-crested Kinglet (*Regulus satrapa*), and

several other birds of the Canadian Fauna, on Mount Monadnock, New Hampshire, within fifteen miles of the Massachusetts State line. Throughout the White Mountains of New Hampshire they are everywhere common during the summer, but it is not until we reach the latitude of the Umbagog Lakes, in Western Maine, that we find them evenly distributed over high and low country alike. In this region summer succeeds winter so quickly that there is almost no spring. Thus when I reached Upton on the 25th of May, 1876, I found that the lakes had broken up but four days previously; not a leaf had unfolded, even in the most sheltered places, and snow lay in large masses everywhere in the hollows and on northern exposures. Yet many species of Warblers had already arrived, and among them the subject of the present sketch was well represented.

They kept closely about the buildings, and although the day was warm, maintained an almost perfect silence. Dozens at a time were hopping about the manure-heap behind the stables and around the sink-spout, while all showed a certain apprehensiveness of manner, as if they feared the issue of their temerity in penetrating into so bleak and dreary a region. Taking a short walk into the woods, I found them untenanted, save by a few Titmice, Woodpeckers, and some of the earlier Sparrows. But in the course of the next week wonderful changes took place. The birches first, afterwards the maples, beech-trees, and poplars, put on a feathery drapery of the most delicate green. The shad-bush (*Amelanchier canadensis*) and the "moose-wood" (*Cornus circinata*) became white with clustering blossoms, and looked at a distance like fleecy summer-clouds entangled among the trees. Underfoot, beautiful trilliums of both the purple (*Trillium erectum*) and white (*T. grandiflorum*) species, were conspicuous among a host of other wild-flowers. Bees hummed among the blossoms, and butterflies flitted airily through the forest glades. Everything was fresh, lovely, and suggestive of the calm, peaceful security of summer. Thus in one week were consummated changes that, farther south, are often extended through nearly thrice the time. All this while the birds had kept ample pace with the advance of the season. Hundreds were daily arriving, passing on, or settling into their accustomed summer-haunts, and the woods fairly rang with the first burst of their melody. During the next week all the Warblers, and most of the smaller birds generally, were occupied in pairing and constructing their nests. Then came

the harvest-time for the oölogist, and rarities were in order. But how brief it all was! A dozen or so days only, and the young were hatched out; the woods swarmed with mosquitoes, black flies, and other bloodthirsty insects, and "the season" was at an end. Nothing remained but to pack up the accumulated treasures, and get them safely home for future comparison and investigation.

Before taking out our cabinet specimens, however, and diving into the dry details of description, let us return to the woods, and contemplate for a few moments the undisturbed nest. We shall be most likely to find one along this old wood-road, for the removal of the taller trees has let in the sunlight a little, and birds love such places.

You will rarely find the interior of a forest so well peopled as the edges and little openings, and the birds are not singular in this respect. Men always choose the shores of rivers, ponds, or the sea, for their first settlements in a new country, and I fancy it is not entirely from considerations of utility, but partly because they crave an adjacent breathing-space, where the sun and wind may have fair sweep. There are some exceptions to the rule among the birds, of course, there being some morbidly disposed individuals that can find no place too dark or too secluded.

As we follow the old wood-path, you shall take one side while I make good the other. These little clumps of fir and spruce shrubs are the likely places, and, judging from the numbers of Black-and-Yellow Warblers that I hear singing, our chances are good, but you must remember that not above one male in three or four of this species is blessed with a mate, so do not let your hopes rise too high. They are a gay lot of bachelors, though, are they not? chasing one another through the branches, more in sport than anger apparently, and uttering their queer, emphatic little songs on all sides. *She knew she was right; yes, she knew she was right*, they seem to say; but what all this means I never could imagine. Some idle gossip of theirs probably, which it will not profit us to inquire into. Ha! I have it, even so soon. I thought yon fellow singing so gayly in the fallen tree-top had more the air of a Benedict than any we have previously seen, and here, almost under my hand, sits his modest little wife on her nest. Be careful how you shake that branch, for I would have you take a good long look ere we disturb her. See how her dark little eye glistens, and note the rapid pulsating motion of her back. Underneath those puffed-up feathers a poor little heart

is beating wildly with fear and apprehension, but still she sits bravely on her trust. She would say, if she could, with the Roman mother, "These are my jewels," and would entreat us to spare them. Now I will advance my hand cautiously. See ! I almost touch her tail with my finger-tips ; but the next instant she is gone. How quietly at the last moment she slid over the edge of the nest, barely eluding my grasp ! A faint cry or two, and there comes the male ; but he, gaudy little braggart ! is far better at singing brave deeds than performing them, and will not trust himself very near, though he keeps up a constant chirping. His mate, however, is bold enough for both, and in her anxiety almost comes within reach of our hands. Now look into the nest ! Beauties, are they not ? Four of them ; rosy white, spotted prettily with umber, lilac, and a few scattered dashes of black. Observe how cunningly the whole affair is concealed,—built close to the stem of the little fir, resting on the flat horizontally disposed rows of "needles," and arched, over by the flake-like layer of twigs above. One long rootlet alone hangs down in full view, and had it not caught my eye I might have passed without discovering the nest. It seems, indeed, a pity to disturb it, but we shall regret it next winter if we leave it behind. Naturalists are probably not hard-hearted by inclination, but of necessity. I dare say the female will commence another nest before we pass here on our way back, and the male will be singing as joyously as ever in an hour or two. Birds' grief, like their average lives, is short, though apparently intense for the time. It is only the end, however, that can ever justify the destruction of a nest, and unthinking persons might, in many cases, be benefited by contemplating a little more closely the suffering which they inflict.

As the published descriptions of the nesting of this species are meagre and more or less conflicting, I shall go somewhat fully into the matter.

*Location of Nest.* — The nest is usually placed in a small fir or spruce, and rarely at a greater elevation than five or six feet. The average height would probably not exceed four feet, and I have found some barely twelve inches above the ground. It is usually *laid* somewhat loosely among the horizontal twigs, from which it can in most cases be lifted intact. Favorite localities are the edges of wood-paths, or roads bordered by woods, and clearings grown up to small evergreens. Exceptional situations are the interior of

the woods, where, in some cases, the nest is placed in the top of a young hemlock ten or fifteen feet up. In one instance I found a nest on a horizontal spruce limb in the very heart of the forest, and at least *thirty-five feet* above the ground. This nest contained four eggs, and the female bird, which was sitting, established its identity beyond question.

*Composition of Nest.* — The framework is wrought somewhat loosely of fine twigs, those of the hemlock being apparently preferred. Next comes a layer of coarse grass or dry weed-stalks; while the interior is lined invariably with fine black roots, which closely resemble horse-hairs. In an examination of more than thirty examples I have found not one in which these black roots were not used. One specimen has, indeed, a few *real* horse-hairs in the lining, but the roots predominate. This uniform coal-black lining shows in strong contrast with the lighter aspect of the outer surface of the nest. The whole structure is loosely put together, and bears a no distant resemblance to the nest of the Chipping Sparrow (*Spizella socialis*).

Among nests of the *Sylvicolidae*, it finds, perhaps, its nearest approach in that of the Chestnut-sided Warbler (*Dendroica pennsylvanica*).

Audubon, describing a nest from Labrador, affirms that it was lined with "a great quantity of feathers." As regards this statement, I can only say that it is entirely at variance with my own observations, and the employment of feathers in a nest of this character seems to me almost as *mal à propos* as it would in that of a Heron or Cuckoo.

*Description of Eggs, etc.* — The time of laying with this species varies, in relation to the season, from June 8 to June 15. Four eggs commonly constitute a set, though in some cases but three are laid; and I know of an instance where five were found in one nest. They measure about .62 of an inch in length by .50 in breadth. The usual shape is a rounded oval, and the ground-color almost invariably creamy white after the removal of the contents. The markings are most commonly blotches of rich, warm umber, with smaller dottings of pale lilac or brown, disposed about the larger end. Some specimens are, however, thickly sprinkled over their entire surface with fine brownish spots. One set of four eggs differs from any of the others in having a decided tinge of bluish in the ground-color; while upon the large patches of umber which en-

circle the greater ends are drawn numerous wavy lines of black, precisely like the characteristic pen-markings of some of the Oriole's eggs. With an extensive series of specimens before me, I am led to the inevitable conviction that eggs of *D. maculosa* are in many cases indistinguishable from those of *D. virens*, *D. pennsylvanica*, and *D. discolor*; and an examination of an equal number of authentic eggs of the other *Dendræcæ* would, I am satisfied, result in adding many more to this list. In the eggs of each of the above-named species there is an almost endless variation, and many sets are consequently quite unique, but the type — if, indeed, any can be established — finds equally near approaches among them all. Nests may, however, in most cases be relied upon, especially when procured from proximate localities.

In the case of the young, both before and after they leave the nest, this bird displays no exceptional traits. Both old and young, when the latter have become able to take care of themselves, join the immense congregations of mingled Warblers, Wrens, Tit-mice, Sparrows, and Woodpeckers, which collect in the northern forests in early August, to be dispersed — most of them southward — by the first frosts of September.

In Eastern Massachusetts this species occurs as a fall migrant from September 21 to October 30, but it is never seen at this season in anything like the numbers which pass through the same section in spring, and the bulk of the migration must follow a more westerly route. Its haunts while with us in the autumn are somewhat different from those which it affects during its northward journey. We now find it most commonly on hillsides, among scrub-oaks and scattered birches, and in company with such birds as the Yellow-Rump (*Dendræca coronata*) and the Black-Poll (*D. striata*). A dull, listless troop they are, comparatively sombre of plumage, totally devoid of song, and apparently intent only upon the gratification of their appetites. It seems, at first thought, strange that the birds, at a season when all the rest of Nature puts on its most gorgeous coloring, should array themselves in their dullest; but it must be borne in mind that many of them played their part before these brilliant leaves had burst their buds, and now, like ushers and orchestra, whose duty has been performed, they stand aside among the audience, and watch the shifting glories of the final transformation-scene. So let us leave them until, attired in fullest costume, they come again to herald, with overtures of joyous song, the rising of the curtain on a new year.

ON GEOGRAPHICAL VARIATION IN *TURDUS MIGRATORIUS*.

BY ROBERT RIDGWAY.

CERTAIN differences between Eastern specimens of the common Robin and those from the Rocky Mountains were first pointed out by Professor Baird, in his "Review of American Birds" (1864, pp. 28, 29), in the following words: "In highly plumaged specimens from the East the feathers of the interscapular region are frequently, even generally, tinged with blackish in their centres, passing gradually into ash on the edges, and the black of the head ceases to be abruptly defined. There is also usually a well-defined whitish tip, half an inch long, to the outer tail-feathers. In Rocky Mountain skins the tail is either black, except a very narrow whitish edge, or the white tips of Eastern specimens are replaced by a dull gray. The black of the head, too, is better defined, the interscapular feathers more uniformly ash, and the upper parts without the faint brownish wash so frequently seen in Eastern specimens. There are, however, some exceptions to these features in specimens from each locality. The colors generally of Western birds appear to be paler." Again, in the "History of North American Birds" (Vol. I, p. 25), the same and additional differences are alluded to, as follows: "There are some variations, both of color and proportions, between Eastern and Western specimens of the Robin. In the latter there is a tendency to a longer tail, though the difference is not marked; and, as a rule, they slightly exceed Eastern specimens in size. The broad white tip to the lateral tail-feather—so conspicuous a mark of Eastern birds—is scarcely to be found at all in any Western ones; and in the latter the black of the head is very sharply defined against the lighter, clearer ash of the back, there hardly ever being a tendency in it to continue backward in the form of central spots to the feathers, as is almost constantly seen in Eastern examples; of Western specimens, the rufous, too, is appreciably lighter than in Eastern."

Very extensive material received at the National Museum since the above was written tends to confirm the constancy of most of these differences between Eastern and Western Robins, while other

points of diversity, previously overlooked, have been detected, the most important being the much blacker tail of Eastern birds, and their decidedly shorter wing.

Upon the whole, the two forms seem to constitute two very strongly marked geographical races, which may be distinguished as follows:—

*T. migratorius*.—Wing, 4.85—5.35; tail, 4.10—4.60; bill, from nostril, .48—.51; tarsus, 1.20—1.35; middle toe, .85—.92.\* Inner web of outer tail-feather with a distinct white terminal spot. Tail-feathers of adult male dusky black, with slight edging of plumbeous. *Habitat*. Eastern region, including the whole of Alaska, Eastern Mexico, and the eastern border of the Missouri Plains.

*T. propinquus*, RIDGW. (MSS.).—Wing, 5.35—5.60; tail, 4.60—4.70; bill, from nostril, .50—.55; tarsus, 1.30—1.35; middle toe, .90. Inner web of lateral tail-feather with merely a narrower terminal edging of white, or with no white whatever. Tail-feathers of adult male dusky slate, without distinctly paler edges. *Habitat*. Western region, including eastern base of Rocky Mountains.

We find the character of blackish centres to the interscapulars in Eastern specimens to be too inconstant a feature to serve as a character. No specimens of the Western series are so marked, but many Eastern ones, otherwise typical, have no trace of these markings. It is a well-known fact that the eggs of the Western Robins average considerably larger in size than those of Eastern birds.

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#### UNUSUAL ABUNDANCE OF THE SNOWY OWL (*NYCTEA SCANDIACA*) IN NEW ENGLAND.

BY RUTHVEN DEANE.

In a recent number of this Bulletin (Vol. I, p. 95), Mr. N. C. Brown gave some interesting notes respecting the variable abundance of birds at the same locality in different seasons. I do not think a more forcible illustration of his remarks can be cited than the recent great abundance of the Snowy Owl in New England. This bird is regarded as not a rare winter visitor to New England,

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\* Eight specimens.

where it is confined mostly to the coast, although occasionally taken throughout the interior. About the first of November, 1876, however, large numbers suddenly appeared along our coast. This being the season when sportsmen and the market gunners were in pursuit of water-fowl on the sea-shore, dozens of Snowy Owls were shot by them and sent to the markets and to taxidermists, so that during the three following weeks it was a common thing to see them hanging with other game in the markets, or confined alive.

I first heard of them on our Massachusetts coast as frequenting the islands off Rockport, where numbers were taken. One gunner spoke of seeing fifteen at once on a small island one foggy morning, nearly half of which he procured. As the Owls flew around over the rocks uttering their weird cries, they presented a scene of rare occurrence in New England. Specimens were soon after captured in nearly every town in this vicinity (Boston), and were sent to the city from various other parts of the country. Several were shot in the very heart of the city of Boston, where they were occasionally seen perched upon the house-tops or church-spires.

I learn from Mr. George A. Boardman, of Milltown, Me., that they were at this time very abundant in his locality, where they appeared as early as September. Mr. Simeon F. Cheney, of Grand Menan, also informs me that they were never before so abundant there as during the present season, arriving there about October 20. He reports that eight were seen together at one time, and that on another occasion a flock of fifteen was noticed.

Mr. N. C. Brown, of Portland, Me., reports that about one hundred and fifty were shot in the immediate vicinity of that city, and that five flew about the buildings of the city for a week unmolested. Mr. J. M. Le Moyne also writes me that the unusual abundance of these birds about Quebec, Canada, has been the subject of general remark.

The migration seems also to have extended far to the southward of New England, as I learn from Mr. Boardman that specimens have been taken as far south as Philadelphia, Baltimore, and Washington. In Philadelphia Mr. John Krider, the well-known taxidermist, had forty sent to him for preparation during October and November. One was taken near Baltimore during the last of September. I have heard of some five hundred specimens that have been seen, the majority of which have been shot.

Many of the specimens were in exceedingly poor condition. Of

some two hundred of these Owls examined by me, nearly all were in very dark plumage, and none wore that almost spotless dress which we occasionally see.

The cause of the sudden visit of such an unusual multitude of these boreal birds, coming as they did when the weather for a few days was unusually warm for the season, the thermometer standing at 75° at noonday, is a question not easily solved. Scarcity of food would seem the most probable solution, or perhaps an early severe cold snap started them on their southward flight. If so, it seems strange that other less hardy species should not be affected in a similar way, as but few Geese and Brant had passed south when the Owls had been with us for a week.

About ten years since there was a somewhat similar migration of this species into the British Provinces and New England, but the birds appeared later in the season, and not in such great numbers as in the present instance.

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#### DISTRIBUTION OF NEW ENGLAND BIRDS. — A REPLY TO DR. T. M. BREWER.

BY H. A. PURDIE.

WHEN asked, some time since, to review a "Catalogue of the Birds of New England," by Dr. T. M. Brewer, I at first declined, feeling that if I expressed myself conscientiously, I should give some displeasure to its author. But I finally consented, and penned the short article in the third number of this Bulletin, bearing the signature "H. A. P." I intended to give the writer of this Catalogue all the credit due him; but in this, according to his reply in the following number, I have signally failed. The tone of Dr. Brewer's article, and the demand he makes that I must produce something of more weight than "unsupported assertions," "sweeping generalizations," opinions and conjectures unsupported by facts, and "positive dogmas given out quite *ex cathedra*," renders it necessary for me, in defence, to reply somewhat in detail. He must, however, be aware that reviews are generally limited as to space, and especially so was the case in this instance, so that full citations in support of my differences with him were out of place. He now

says he gave the list for what it was worth, expecting and desiring to have it amended and improved; and elsewhere he has said, "however lenient we may be even towards errors and incorrect statements that apparently might have been avoided, we should also, all of us, never hesitate to expose and to correct whatever we know to be wrong." Unhappily such an attempt on my part has not been very graciously received. He also says "it was but an initiative towards a complete and reliable list of the birds of New England," and that it was "at the last moment, and when it could only be done briefly," that "the character of the presence of the species" was added, and that of course the additions were "never exhaustive." Now I will respectfully ask how the general reader was to know this. I received the list "for what it was worth." There was nothing in the introduction to show that it was not considered complete or correct.

Of course, after all that has been written upon the subject, I was aware that generally a species is not resident *individually* in a given section of territory. His remark respecting the Robin, that the birds found with us in winter are not the same as those that pass the summer here, but "are of a very different race," is not at all to the point at issue. As a species, I say *Turdus migratorius* is a resident of New England. If, however, as he holds, the birds found in winter are another and very different race, — as race is now understood, — he should have so indicated it in the Catalogue, perhaps as "*Turdus hyperboreus*. Arctic Robin. Winter visitant." I intended in reply to cite at length all the facts that bear upon the points in dispute, but found that to do so would require quite too much of the valuable space of the Bulletin; but I trust that I have brought forward sufficient evidence to show that my statements were not altogether "conjectures" and "unsupported assertions."

The following five species, among others, Dr. Brewer claimed had never been taken in New England, and therefore should be excluded from the list of New England birds. In respect to this, I simply asked "if previous record did not show that these at least could be retained," intending thereby to imply that I considered this to be the case. The following are the birds and their record: —

*Quiscaulus major*. BOAT-TAILED GRACKLE. — "*Q. baritus*, Bonaparte. Thrush Blackbird. New Haven. Of the Thrush Blackbird one specimen only has been observed, by Dr. Whelpley at New Haven, and of

course is rare in Connecticut." (Rev. J. H. Linsley, Cat. of the Birds of Conn., in Am. Jour. Sci. and Arts, Vol. XLIV, 1843, p. 249.) "Accidental. Have heard of one that was killed in Cambridge a few years since. Mr. E. A. Samuels tells me that a pair bred in Cambridge in 1861." (J. A. Allen, Proc. Ess. Inst., IV, p. 85, 1864.) Both these and the Connecticut bird are cited by Dr. Coues (Proc. Ess. Inst., V, p. 285, 1868) as valid. But I understand that more recently the authenticity of the specimens taken is doubted, they being referred to the Crow Blackbird (*Q. purpureus*). As Mr. Linsley also gives *Q. purpureus* as common, I see no reason for doubting his record. Of Mr. Samuels's birds, I have always understood him, and he still avers that two of them, in the flesh, were brought to him by Professor Jeffries Wyman, and that to his best knowledge and belief they were shot in the Cambridge salt marshes; that their rarity was commented on at the time, and that they were not *Q. purpureus*.

**Corvus ossifragus.** FISH CROW.—"Stratford," Conn., Linsley (l. c.) "An occasional visitor along the southern coast of the State of Massachusetts." (J. A. Allen, l. c.) "Very rare visitor in summer" to Massachusetts. (E. A. Samuels, Descriptive Catalogue of the Birds of Mass., in Rept. of Sec. Board of Agriculture of Mass. for 1863.) "A rare summer visitor, chiefly along the more southern portions of the coast" of New England. (Coues, Proc. Ess. Inst., V, 1868.) "Coast of the United States, from New England to Florida." (Coues, Birds of the Northwest.) And now, as confirmatory of the above, Mr. Brewster gives an instance of his seeing it in Cambridge, March 16, 1875. (See this Bulletin, Vol. I, p. 19.)

**Hegialitis wilsonius.** WILSON'S PLOVER.—Allowing that this species has not yet been found in Massachusetts, we have: "Stratford," Conn., Linsley (l. c.) "Appears to be rather rare, and perhaps only occasional, as far north as Massachusetts. (Coues, l. c.) "Dr. Wood informs me that Wilson's Plover is abundant in August on Long Island, and Mr. Linsley has recorded it from Stratford, Conn. It hence seems unquestionable that they sometimes occur in Southern New England, and it would not be strange if they should occasionally reach the coast of Massachusetts." (Allen, Am. Nat., Vol. III, 1869.) "North to Long Island and Connecticut, probably to Massachusetts, but rare beyond New Jersey." (Coues, Birds of the Northwest.)

**Nettion crecca.** EUROPEAN TEAL.—At a meeting of the Boston Society of Natural History, April 18, 1855, Dr. Bryant remarked that a specimen of the European Green-winged Teal had been sent to Mr. E. Samuels to be mounted. It was shot in Massachusetts, the first he had ever seen in the State. (Proc. Bos. Soc. Nat. His., Vol. V, p. 195.) This instance is cited by Allen (Proc. Ess. Inst., Vol. IV, 1864) and by C. J. Maynard (Naturalist's Guide, 1870). "A European species, but so often

taken on the coast as to be fairly considered as more than an accidental visitor." (Coues, Proc. Ess. Inst., Vol. V, 1868.)

**Sula fiber.** BOOBY GANNET. — "Guilford," Conn., Linsley (l. c.), "September. Rare." Essex Co., F. W. Putnain. (Proc. Ess. Inst., Vol. I, 1856.) Both these cases are cited by Dr. Coues in his Birds of New England, and the last by C. J. Maynard. (Naturalist's Guide, 1870.)

I think that the above-named five birds have as much right to be included among those that have occurred with us as have the Mealy Red-Poll (*Ægiothus canescens*), Small-headed Flycatcher (*Myiobius minutus*), Willow Ptarmigan (*Lagopus albus*), White-fronted Goose (*Anser gambeli*), and Hutchin's Goose (*Bernicla hutchinsi*), which are all retained by Dr. Brewer. There are also two other birds, namely, the Blue-gray Gnatcatcher (*Polioptila cerulea*) and the Blue Warbler (*Dendroica cerulea*), expunged by Dr. Brewer, whose record of occurrence in New England is as good as any just cited, which I am prepared to show have recently been taken in Connecticut and Rhode Island. (See this number of the Bulletin, p. 20.)

In regard to the Robin (*Turdus migratorius*), the Crow (*Corvus americanus*), the Hairy Woodpecker (*Picus villosus*), the Long-eared Owl (*Otus wilsonianus*), the Short-eared Owl (*Brachyotus cassini*), the Acadian Owl (*Nyctale acadica*), and the Sharp-shinned Hawk (*Nisus fuscus*), which Dr. Brewer classed as summer residents of New England (he saying of the Crow that a few winter), but which I stated must be considered as constant residents, at least of the southern portions, and some of them also of the northern, I will say that a reference to the often cited local lists, and to other writings on New England birds, quite fully confirms my remark, these species being given as residents, some of them occurring in smaller numbers in winter, as is to be expected, while again others are found more frequently in winter than at any other season. I notice a slight exception in the case of *Nisus fuscus*, a few writers regarding it as only a summer visitant, even to Massachusetts; but that it, as well as the others, remains in greater or less numbers in certain sections the year round, is well known to collectors.

In the "History of North American Birds," by Messrs. Baird, Brewer, and Ridgway, we find the following respecting the winter distribution of the Robin: "In the winter months it is most abundant in the Southern States, while in the Middle and even the Northern States, in favorable localities, it may be found throughout the year; its migrations being influenced more by the question of food than of climate. In the valleys among the White Mountains, where snow covers the ground from October to June, and where the cold reaches the freezing-point of mercury, flocks of Robins remain during the entire winter, attracted by the abundance of berries. In Massachusetts a few Robins remain throughout the year, but the greater proportion leave early in November, returning late in February or early in March."

Also in respect to the Hairy Woodpecker, we read in the same work (Vol. II, p. 506) : "It is a resident and not a migratory species, and wherever found it also breeds."

Also (in Vol. III, p. 46) of *Nyctale acadica* : "Mr. Boardman and Professor Verrill both give it as resident, and as common in Maine."

Other species, namely, the Short-billed Marsh Wren (*Cistothorus stellaris*), the Warbling Vireo (*Vireo gilvus*), the White-eyed Vireo (*V. noveboracensis*), the Field Sparrow (*Spizella pusilla*), the Carolina Dove (*Zenædura carolinensis*), and the Quail (*Ortyx virginianus*), which were given as summer residents, presumably of all New England, I said seldom reached Northern New England. With the exception of *Ortyx virginianus*, I did not make the positive statement that the above-named species never did so, knowing that one or two of them had been found sparingly at certain localities in that section. Here again, the published record, with but slight exceptions, supports me in my assertion. As to *Vireo gilvus* and *Spizella pusilla*, though given by Mr. Verrill as summer visitants at Norway, Me., and by Dr. Coues as summer visitants to all New England, the former is rare, and the latter does not occur at all, at Calais, Me., nor does C. J. Maynard give either as found in Coos County, N. H., or Oxford County, Me. He considers the White Mountain range as forming their northern limit of distribution. Mr. William Brewster did not find them at Franconia, N. H.

Respecting *V. noveboracensis*, I quote the following from the "History of North American Birds" (Vol. II, pp. 385, 386) : "In the last-named State [Massachusetts] it becomes exceedingly rare, and beyond it is apparently not found, none having been met with either by Messrs. Verrill or Boardman in any part of Maine. Mr. Audubon states that he himself found them along the coast in Maine, Nova Scotia, and Labrador. This, however, I am inclined to consider a misstatement, as they have not since been detected north of the 42d parallel."

From the same work (Vol. II, p. 5), respecting *S. pusilla*, is the following : "In the summer it breeds from Virginia to Maine, as far as the central and western portions. It is not found near Calais, but occurs and breeds near Norway, Oxford County."

Again of *Z. carolinensis* (Vol. III, p. 384) : "It is found in the southern part of Maine as far to the eastward as Calais, but was not collected by Mr. Verrill at Norway, and is not known to occur in the northern part of that State." I said it was not "rare," meaning of course in Southern New England, and by looking up the matter, such will be found to be the case. Citing again from our standard work on North American birds, we find this of *Ortyx virginianus* : "This bird is probably found in all the New England States, though its presence in Maine is not certain, and if found there at all, is only met with in the extreme southwestern portion. It is also rare in Vermont and New Hampshire, and only found in the southern portions. It is not given by Mr. Boardman, nor by Professor Verrill."

Observations made in the nesting-season during the last five or six years in New Hampshire and Maine, by such experienced collectors as Messrs. Brewster and Maynard, and, to a less extent, by Bailey, Deane, and myself, show the absence of the foregoing species from the Fauna, and the presence of the five following, namely, the Cape May Warbler (*Perisognathus tigrina*), the Mourning Warbler (*Geothlypis philadelphica*), the Olive-sided Flycatcher (*Contopus borealis*), and, in less abundance, the Black-backed and the Banded Three-toed Woodpeckers (*Picoides arcticus* and *P. americanus*).

What had already appeared in print respecting the distribution of these birds, added to the observations of the above-named gentlemen, I thought warranted me in saying that at least *P. tigrina*, *G. philadelphica*, and *C. borealis*, were "generally," that is, usually, if, perhaps, not universally, common, and bred regularly in Northern New England.

The Worm-eating Warbler (*Helmintherus vermivorus*), the Blue-winged Yellow Warbler (*Helminthophaga pinus*), the Yellow-breasted Chat (*Icteria virens*), the Hooded Warbler (*Myiothlypis mitratus*), and the Great-crested Flycatcher (*Myiarchus crinitus*) have generally been considered rare birds in any part of New England, but in the "American Naturalist" (Vol. VII, 1873, p. 692) I mentioned, on the authority of Mr. J. N. Clark, of Saybrook, Conn., that they were found at that locality regularly in numbers and breeding, though he had not actually found the nest of *H. vermivorus*. I also spoke of a Water-Thrush that occurred there, and inferred that it was probably the Long-billed Water-Thrush (*Sturnus ludovicianus*). Subsequent correspondence, and a visit to Saybrook in June, 1875, confirmed my suspicion, proving that *ludovicianus* was the species that summered there, and that it was common, as were all the others, with the exception of *H. vermivorus*. Mr. C. M. Jones, now of Eastford, Conn., has written me that he observed all but *S. ludovicianus* and *H. vermivorus*, at Madison, in that State, where he formerly resided.

The Golden-winged Warbler (*Helminthophaga chrysoptera*) and the Yellow-winged Sparrow (*Coturniculus passerinus*) are two species that Dr. Brewer still denies can be considered as breeding regularly, or in numbers, in any portion of New England. As far back as June, 1869 (Am. Nat., Vol. III, p. 497), and again in 1870 (Samuel's Orn. and Öl. of New England, revised edition, 1870, Appendix), I showed that the Golden-winged Warbler was far from uncommon in Massachusetts. Observations made every year since have not altered my opinion. I find it in the proper places from May to August. It is apparently less plenty after the first of June, but is still not a bird of the Canadian Fauna.

In "History of North American Birds" (Vol. I, p. 193) we read: "Occasionally specimens have been obtained in Massachusetts, and, of late, these occurrences have become more common or more observed. . . . Mr. J. A. Allen has known of several specimens taken within the State. Mr. Jillson has observed it spending the summer in Bolton, and evidently

breeding, as has also Mr. Allen at Springfield, and Mr. Bennett at Holyoke." (See also Am. Nat., Vol. III, 1869, p. 575; Maynard's Naturalist's Guide, 1870; and this Bulletin, Vol. I, p. 6, for accounts of the nesting of this species in Massachusetts.)

I had no idea that any one acquainted at all with New England birds could say that *C. passerinus* was rare, or even uncommon, in Southern New England. Why, it absolutely swarms, so to speak, on Nantucket. I presume Dr. Brewer will allow that island to be included within our limits. On Cape Cod, and, indeed, in various portions of Massachusetts, Rhode Island, and Connecticut, and even northward to Concord, New Hampshire, it may be found in plenty at all suitable localities. At Saybrook, Conn., its notes were to be heard in every field. (See History North American Birds, Vol. I, p. 554, and local lists of New England birds, south of Northern sections, in confirmation of this statement.

The Long-billed Curlew (*Numenius longirostris*), the Yellow Rail (*Porzana noveboracensis*), and the Coot (*Fulica americana*) I considered spring and fall migrants, rather than as summer residents. The lists show this statement also to be true, while the gunners and collectors further confirm it. Perhaps a few may summer on the extreme northeastern coast of Maine.

But my space is becoming limited. That the Golden-crested Kinglet (*Regulus satrapa*) winters in numbers in Southern New England, that the Snowbird (*Junco hyemalis*) does not do so in Northern New England, that the Titlark (*Anthus ludovicianus*) does not winter (perhaps with rare exceptions in the southernmost parts), and that *Ectopistes migratoria* regularly summers in different portions of New England, are all statements demonstrable by facts already in print, and by the observations of those who speak of that which they do know.

A word about the Stilt Sandpiper (*Micropalma himantopus*), and I am done. In the "American Naturalist" (Vol. III, p. 639) is recorded the first supposed instance of its occurrence in New England. In the same periodical (Vol. VII, p. 727) is given the first supposed \* instance for Massachusetts. Again (in Vol. VI, p. 307) Mr. Brewster says: "The Stilt Sandpiper (*Micropalma himantopus*), which I see was recorded in a recent number of the 'Naturalist' as new to our Fauna, I consider by no means rare in its migrations. Indeed, I have seen as many as six or seven sent into Boston market at one time, from Cape Cod, and, in the course of a few weeks' shooting in August, at Rye Beach, N. H. (just north of our State limits), secured no less than ten specimens." Not only has he since shot it, but he, as well as myself and others, find it frequently in the Boston markets.

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\* Mr. F. C. Browne, of Framingham, has a specimen taken at Plymouth in 1852.

OCCURRENCE OF THE BARNACLE GOOSE (*BERNICLA LEUCOPSIS*) ON LONG ISLAND, N. Y.

BY GEO. N. LAWRENCE.

I WAS recently informed, by Mr. Harold Herrick, that a specimen of this species could be seen at the store of Mr. Conway, taxidermist, in Carmine Street, said to have been killed on Long Island. I called there and was shown a nicely mounted example of this Goose in perfect plumage. Mr. Conway said that it was brought to him in the flesh, in good condition, and was eaten by his family; he spoke very favorably of its edible qualities.

I learned from him that its possessor was Mr. J. K. Kendall of this city. I had an interview with this gentleman, and requested that he would ascertain all the facts possible as to its capture, and send me the information. I received from him the following letter giving the result of his inquiries:—

NEW YORK, November 29, 1876.

DEAR SIR,—About October 20 I saw a specimen of the Barnacle Goose hanging in a restaurant in this city,—bought it and had it stuffed. I questioned the proprietor, and learned from him the place where he bought it,—from a produce-dealer near Washington Market. Afterwards I interviewed the marketman, and he recollects the bird well, although he had no idea what it was. He told me he bought it from a Long Island farmer, who brought it to the city in his wagon, and who said that it was killed by a boy in Jamaica Bay. Unfortunately he did not know the farmer,—never saw him before nor since, so I was unable to trace the bird any farther, but I am fully satisfied the story was true.

Yours truly,

J. K. KENDALL.

This is the second instance of this species having been procured on the Atlantic coast; the first was obtained in Currituck Sound, North Carolina, in 1870, and is recorded in Vol. V, p. 10, of the "American Naturalist." \*

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\* In Dr. Brewer's "Catalogue of the Birds of New England" (from Proceedings of the Boston Society of Natural History, Vol. XVII, March 3, 1875) he excludes this species from our New England list, and also states that the specimen recorded by Mr. Lawrence as having been taken in North Carolina was

CAPTURE OF A SECOND SPECIMEN OF HELMINTHOPHAGA  
LAWRENCEI.

BY HAROLD HERRICK.

IN 1874 I had the pleasure of publishing in the "Proceedings of the Academy of Natural Sciences of Philadelphia" (p. 220, pl. xv) a description of a new species of *Helminthophaga* that I had just been fortunate enough to unearth. It has remained unique up to the present time, and although its friends have stoutly maintained its validity, the "hybrid" theorists have sorely tried their faith; therefore I am more than pleased to be able to set the matter permanently at rest by announcing the capture of a second specimen of *Helminthophaga lawrencei*. The specimen, oddly enough, was secured by Mr. Lawrence himself, who sends it to me with a letter of explanation, from which the following is an extract:—

"I obtained the specimen of *H. Lawrencei* last fall from a dealer, who called my attention to it as having a black throat, differing in that respect from any species he had ever before met with. He said it was sent to him last spring from Hoboken, N. J., with a miscellaneous lot of Warblers. I think the acquisition of a second specimen of this species should put at rest all doubt of its validity."

This specimen agrees precisely with the type, with this slight exception, that the type is an adult male, probably in the second or third year, while the bird under consideration is unquestionably a yearling male, and still has the immature yellowish tips to the coal-black feathers of the throat-patch. A slightly similar effect is seen in the yearling males of *Dendroica virens*. I cannot better describe it than by republishing the description of the type.

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probably one of eight specimens which escaped from the grounds of a gentleman in Halifax in the fall of 1871 or 1872.

From Mr. Lawrence's record (Am. Naturalist, Vol V, p. 10) we find this Goose was captured on October 31, 1870, one or two years previous to the escaping of the Halifax birds.

In view of this fact may not Mr. Lawrence's specimen still remain as the first authentic instance of the occurrence of the Barnacle Goose in the United States; at all events, until we hear of a confined specimen having escaped previous to that date! — RUTHVEN DEANE.

"Upper parts and rump olive-green, a shade darker than in *pinus*. Wings bluish-gray, with two white bands, the upper not so clearly defined as in *pinus*. Tail bluish-gray, with the three outer tail-feathers with most of the web white, also a small white spot on the end of the fourth feather. Crown and under parts, from breast to vent, orange. A broad black patch extends from the bill through and behind the eye. Chin, throat, and fore-part of the breast black. A yellow stripe, commencing under the bill, extends back between the black eye- and breast-patches, and increases in width upon the shoulder. Length, 4.50; wing, 2.50; tail, 2.00. Measurements from the mounted bird."

The measurements of the two birds are as nearly identical as is possible when one bird is mounted and the other a skin. Of its habitat, the plumage of the female, and its nesting peculiarities, we can only conjecture, but it seems not unreasonable to presume that its habitat is similar to that of its near congener, *H. pinus*, and that New Jersey may some day produce its nest and eggs, as it has already produced the only two known specimens of the bird.

The female, I believe, will be found to be not unlike that of *H. pinus*, and a close inspection of supposed specimens of the latter bird now in collections may develop some interesting facts.

In conclusion it may be well to add, what by inadvertence I omitted when the description was first published, namely, that for the correct delineation of the bird in the plate I am indebted to Mr. Robert Ridgway, of the Smithsonian Institution, to whom I take this opportunity of tendering my thanks.

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#### NOTICE OF A FEW BIRDS OF RARE OR ACCIDENTAL OCCURRENCE IN NEW ENGLAND.

BY H. A. PURDIE.

THE following data respecting the occurrence of the following fourteen species so far to the northeastward as New England are of special interest. I am indebted to Messrs. Frederic T. Jencks of Providence, R. I., Erwin I. Shores of Suffield, Conn., F. C. Browne of Framingham, Mass., and J. N. Clark of Saybrook, Conn., for facts relating to eleven of the birds here mentioned.

1. *Polioptila caerulea*. BLUE-GRAY GNATCATCHER.—Mr. Jencks writes: "Two were shot at Wauregan (Windham County), Conn., by

Mr. C. M. Carpenter, — a male in 1874 and a female in 1876. Three or four were seen by me at Providence, R. I., May 23, 1875."

A male was also shot, by Mr. Shores, at Silver Spring, near Providence, June 24, 1875, and several others have been seen by him at different times in Providence and vicinity.

2. *Helmintherus vermivorus*. WORM-EATING WARBLER. — Mr. Shores shot a male at Suffield (Hartford County), Conn., August 22, 1874. This is, I think, its most northerly record in the Atlantic States yet noted.

3. *Helminthophaga celata*. ORANGE-CROWNED WARBLER. — Mr. Jencks writes me that "a specimen was shot in Cranston, R. I., December 3, 1874." This is the fifth specimen reported for New England, and the second taken in the winter season.\*

4. *Dendroica caerulea*. BLUE WARBLER. — A male was obtained by Mr. Shores at Suffield, June 12, 1875. This species and *Polioptila caerulea*, though previously recorded as occurring in New England, have not been recently taken here.

5. *Myiobius mitratus*. HOODED WARBLER. — A male was shot at Suffield, Conn., by Mr. Shores, July 8, 1875. This bird, though found regularly along the Sound shore of Connecticut, has not been noticed so far northward before in New England. This, as well as a few other species characteristic of the Carolinian Fauna, will probably be found to extend up the river-valleys of Connecticut, though not passing farther eastward.

6. *Pyranga sestiva*. SUMMER REDBIRD. — Mr. Jencks informs me that a male was shot a few years since on Ten-Mile River, six or eight miles northeast of Providence. It has appeared before, but is sufficiently rare here to merit notice.

7. *Stelgidopteryx serripennis*. ROUGH-WINGED SWALLOW. — A female of this species was shot at Suffield, Conn., by Mr. Shores, June 6, 1874. At last this bird has been taken within our limits. It will be interesting to determine whether it proves to be in future a regular visitant to New England.

8. *Collurio ludovicianus* var. *excubitoroides*. WHITE-RUMPED SHRIKE. — A typical example of this variety was shot by Mr. Jencks in Cranston, R. I., September 2, 1873, and is now in his collection. Its previous record of having been found within our borders is somewhat doubtful. I believe it is hardly found regularly much east of Buffalo, N. Y. In this connection I would say that the *Collurio* taken in Massachusetts, recorded by me in the "American Naturalist" (Vol. VII, 1873, p. 115), was a typical "Loggerhead" Shrike (*C. ludovicianus*).

9. *Milvulus forficatus*. SWALLOW-TAILED FLYCATCHER. — Mr. Jencks informs me that a specimen of this species was shot by Mr. Carpenter, at

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\* See this Bulletin, Vol. I, p. 94, for its previous New England record.

Wauregan, Conn., about April 27, 1876. The bird first attracted Mr. Carpenter's attention by its opening and closing the tail while flying about a small sheet of water in quest of insects. The only other Eastern United States capture of this species is a male taken at Trenton, N. J., a few years ago, as recorded by Dr. C. C. Abbott.\* Of course its appearance here is entirely accidental.

10. *Porzana jamaicensis*. BLACK RAIL.—I have lately seen a skin of this species belonging to Mr. Browne, of Framingham. The bird was picked up dead, in August, 1869, by a relative of his, on Clark's Island, Plymouth Harbor, and was forwarded to him as something entirely new to our shores. This instance adds a new bird to the Fauna of Massachusetts.

Of this species Mr. Clark, of Saybrook, Conn., also writes me that a neighbor of his, while mowing at that place, July 10, 1876, swung his scythe over a nest of ten eggs on which the bird was sitting, unfortunately cutting off the bird's head and breaking all but four of the eggs. The only previous New England record of this species is that given by Dr. Brewer (Proc. Bost. Soc. Nat. Hist., Vol. XVII, p. 477).

11. *Rallus longirostris*. CLAPPER RAIL.—In the Natural History store of Brewster & Knowlton, Boston, I recently saw a mounted specimen of this species. The bird was captured by its flying on board a vessel in the harbor, May 4, 1875. Though recorded from Maine and Connecticut, it being in the latter probably quite a regular summer visitor (about the Sound), I believe its appearance before in Massachusetts has been questioned.

12. *Rallus elegans*. KING RAIL.—In the collection of Mr. George O. Welch, of Lynn, Mass., is a mounted specimen shot at Nahant, November 21, 1875. This is a second species new to Massachusetts, and has been but once or twice before recorded from any part of New England.

13. *Sterna fuliginosa*. SOOTY TERN.—Mr. Clark informs me that he has this species in his collection, mounted from a bird that last summer flew against the side of the steamboat-wharf depot at Saybrook, Conn. Stunned by the concussion, it fell and was picked up. It had been noticed for several days flying about the mouth of the river as something unusual.

14. *Pelecanus trachyrhynchus*. WHITE PELICAN.—At the Natural History store of Mr. A. J. Colburn, Boston, I saw, a few months since, a skin of this species, freshly made up from the flesh. The bird was shot at North Scituate, October 6, 1876, by Mr. George Pratt. It was a male, in fine plumage and good condition. Though not new to the State, I think its presence with us worthy of notice.

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\* Amer. Nat., Vol. VI, p. 367.

## Recent Literature.

NOTICES OF FIVE RECENT ORNITHOLOGICAL PAPERS.—The first three numbers of the "Proceedings of the Zoölogical Society of London" for 1876 contain several important papers upon the anatomy and classification of several groups of birds, by Mr. A. H. Garrod, while among the numerous other ornithological articles of more or less special interest are papers by Mr. Howard Saunders, on the Skau Gulls and on the Terns; by Messrs. Sclater and Salvin, on the *Anatidae* of "Neotropical" America; an abstract of a memoir by Mr. W. K. Parker on *Ægithognathous* birds; and a paper by Mr. W. H. Hudson on the habits of some of the Rails of the Argentine Republic. Among the numerous new species of birds figured and described are quite a number from the Andean Region of South America.

Among Mr. Garrod's contributions is a short paper (l. c. pp. 275–277) on the anatomy of the Courlan (*Aramus scolopaceus*). He finds it to have, on the whole, decidedly closer affinities with the Cranes (*Grus*) than with any other group, especially in respect to its osteology, notwithstanding its many external resemblances to the Rails. Hence Mr. Garrod's researches confirm the views of recent systematists in respect to the affinities of this peculiar and interesting form. Mr. Garrod also writes (l. c. pp. 335–345, pls. xxvi–xxviii) concerning the anatomy of the Darter (*Plotus anhinga*), a bird whose anatomy, aside from its skeleton, had previously received little attention. Mr. Garrod finds in its visceral anatomy several quite peculiar features, one of which is the protection of the pyloric orifice by "a mat of lengthy hair-like processes, much like cocoanut fibre, which nearly half fills the second stomach." These hair-like fibres are found to considerably resemble in structure true cutaneous hairs. In general terms, the Darter may be said to present many of the features characteristic of the Gannets, Pelicans, and their allies, in an exaggerated degree.

The most important and interesting of Mr. Garrod's contributions is a paper "On some Anatomical Characters which bear upon the Major Divisions of the Passerine Birds" (l. c. pp. 506–519, pls. xlviii–lii). Mr. Garrod attaches great importance to the mode of insertion of one of the muscles of the wing (the *tensor palatii brevis*), to the character of the syrinx, the absence or presence of either the femoral or the sciatic artery, etc., to which points the researches here detailed are mainly directed. He concludes his paper with a tabular arrangement of the larger groups of the Passerine, expressive of his views of their affinities.

Mr. Howard Saunders's paper (l. c. pp. 317–332, pl. xxiv) on the Skau or Jager Gulls (*Stercorarinae*) is devoted to the synonymy and range of the species, with incidental remarks on their progressive changes of plumage. Mr. Saunders recognizes six species, all of which he refers

to one genus, for which he adopts the name *Stercorarius* as being the only proper and tenable one. Two of these species belong to the Southern Hemisphere, the other four to the Northern, all of which latter occur in the boreal parts of North America, as well as in the Old World. The nomenclature adopted by Mr. Saunders for two of the Northern species differs from that commonly employed, Mr. Saunders maintaining, and apparently with good reason, that the Linnaean name *parasiticus* belongs not to the bird commonly so called, but to the bird usually called *cepphus* or *buffoni*. Thus *Stercorarius crepidatus* Saunders is the *S. parasiticus* of Coues and most recent authors, while the *S. parasiticus* Saunders is the *S. buffoni* of Coues and others, which is again the *S. cephus* of Gray and other writers.

Mr. Saunders's paper on the Terns (l. c. pp. 638-672, pl. lxi) is similar in character to that on the Jager or Skau Gulls, treating mainly of nomenclature and distribution, being, like the other, preliminary to a monograph of the *Laridae*. The genera recognized are *Hydrochelidon*, *Sterna*, *Nænia*, *Gygis*, and *Anous*. Of the forty-eight species recognized, thirty-eight are placed under *Sterna*. The most noteworthy change of names among the North American species is the substitution of the name *fluvialis* of Naumann for the hitherto almost universally accepted *hirundo* of Linnaeus for our Common Tern, which name he considers as originally embracing both the *hirundo* and the *macrura* of recent authors. The *Sterna portlandica* of Ridgway is referred to *S. macrura*, in accordance with Mr. Brewster's views, and the Least Tern is considered as specifically distinct from *S. superciliaris*, of which Dr. Coues deems it to be merely a variety. In most other cases Mr. Saunders's names as respects the North American species agree with those recently adopted by Dr. Coues in his "Birds of the Northwest."

Messrs. Sclater and Salvin's "Revision of the Neotropical Anatidæ" (l. c. pp. 358-412, pl. xxxiv) is a most valuable synopsis of the Ducks and Geese of Middle and Southern America, and embraces also a large proportion of the species of North America, including as it does all that reach Tropical America in their migrations. The paper includes notices of sixty-two species, of the greater part of which are given short descriptions, accompanied by pretty full lists of bibliographical references. Twenty-three of the species are considered as "Nearctic," leaving thirty-nine as properly "Neotropical." The paper closes with a very convenient tabular synopsis of the geographical distribution of the genera and species. — J. A. A.

VENNOR'S RAPACIOUS BIRDS OF CANADA.—With the title "Our Birds of Prey; or, The Eagles, Hawks, and Owls of Canada," by Henry G. Vennor, Messrs. Dawson Brothers have published an elegant royal octavo volume of one hundred and fifty-four pages, with thirty photographic illustrations. While these illustrations are probably as excellent as the photo-

graphic art can supply, they cannot be regarded as a very valuable addition to the work, certainly not in proportion to their cost. They do not supply those shades of tinting so essential to the student, and, being necessarily taken from mounted specimens, cannot remedy the inevitable shortcomings of their models. The text, which is largely compiled from the notes of other writers, gives a fairly digested summary of the individual history of each species.

Mr. Vennor includes two forms of Gyr-falcons, the *candicans* and the *labradoria* of Audubon, but adds nothing of moment to our knowledge of the history of the former, and does not include, except inferentially, *Hierofalco islandicus* as among the birds of Canada. He gives, as a separate form, the dark Gyr-falcon, described by Audubon as *labradoria*, but he is mistaken in several of his statements in regard to this variety. It is probably not so very rare a bird as has been supposed, although it is little known in North American collections. The supposition that the two specimens in the Montreal Museum are the only ones known in all North America is incorrect. Mr. Boardman of St. Stephen possesses at least two very fine specimens, the Boston Museum has a very fine one, and there is at least one in the National Museum of Washington. Nor is Mr. Vennor the first to represent, in plate, this species (or variety?).

In the "Ornithological Miscellany," edited by Mr. George Dawson Rowley, and published by Trübner & Co., of London, Mr. Henry E. Dresser presented a very interesting memoir of this Hawk, accompanied with a very fine illustration. I am not aware that any copy of this work is in this country, and the writer can only refer to it from memory. From this it would appear that for several years past collections of skins received in Europe from Labrador have always contained skins of this bird. One of the museums of Germany was especially fortunate in securing a fine series of this bird, and Mr. Dresser, having learned the source from which it had been enriched, has himself since procured several very fine specimens. So far as is known it seems to be confined to Labrador, and its specific peculiarities, if it has any, are not publicly known. At present we know too little in regard to it to discuss the question whether it is to be regarded as a species or a race, or whether it may not be a melanistic form. It is much more distinct, in its external markings, from any of the three other forms, *gyrfalco*, *islandicus*, and *candicans* than they are from one another, and, so far as is known, there is much less variation in the markings of individuals. The writer has no doubt that the birds referred to (North American Birds, Vol. III, p. 311), under the supposition that they belonged to the Black Rough-legged Hawks, were really of this group.

In this connection it may be mentioned that Mr. Dresser refers the form of *Hierofalco* found on Anderson River, not to *H. candicans*, but to the more common Norway form of *H. gyrfalco*. — T. M. B.

### General Notes.

A HUMMING-BIRD NEW TO THE FAUNA OF THE UNITED STATES. — I have again the pleasure of adding another bird new to our Fauna. A Humming-Bird (male), taken within the limits of Fort Brown, Texas, August 17, 1876, and forwarded to the Smithsonian Institution for identification, has just been determined to be *Amazilia cerviniventris*. It much resembles *Pyrrhophia riefferi*, and has rusty (instead of white) leg puffs. — JAMES C. MERRILL, *Fort Brown, Texas*, December 4, 1876.

NOTE ON *PODICEPS DOMINICUS*.\* — This species was long since attributed (perhaps erroneously) to "California," by Dr. William Gambel; it was included by Baird among Birds of the Mexican Boundary, apparently on strength of its eggs found at Matamoras, and figured in his "Birds of North America" (ed. of 1860, not of 1858). It was also formally presented by me as North American (Birds of the Northwest, p. 736, where its habitat is given as north of the Rio Grande). — ELLIOTT COUES.

EASTWARD RANGE OF THE FERRUGINOUS BUZZARD (*Archibuteo ferrugineus*). — During the past summer (1876) I found this bird to be common on the prairies of Nebraska and Wyoming, where it might almost be considered as one of the characteristic species. In 1873 I observed it on the Pembina Mountains, in Eastern Dakota, near the Red River of the North; and in 1874 I found it nesting in Northern Montana, on one of the Two Forks of Milk River. In years previous I had only seen it in Arizona and Southern California. I can now record its range still farther eastward, — beyond the Mississippi, as I lately saw one in Illinois, a few miles from the river. The great size of the bird, its white tail, almost as conspicuous as that of the Bald Eagle, and white under parts, render it unmistakable at any ordinary distance. Its geographical distribution is apparently nearly coincident with that of the Lanier Falcon (*Falco polygrus* Cass.), a bird which I have also found very numerous in Nebraska, Wyoming, and open portions of Colorado. Both species are *prairie* Hawks, subsisting largely or chiefly upon the small rodent mammals which abound in such regions. — ELLIOTT COUES, *Washington, D. C.*, October, 1876.

OCCURRENCE OF LECONTE'S BUNTING (*Coturniculus lecontei* Bon.) IN IOWA. — One of my correspondents, Mr. E. W. Newton, of Franklin Grove, Ill., writes me that when on a recent collecting trip through Iowa, he had the good fortune to secure twenty-two specimens of this species in a small slough situated in Colo, Story County, near the centre of the State, one of which he kindly sent me for identification. The date of cap-

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\* See this Bulletin, Vol. I, p. 88, November, 1876.

ture recorded on the label is October 10, 1876. Although he hunted carefully over equally desirable situations in other parts of the State, this was the only place where it was found. This forms its most eastern record, excepting the single specimen taken by Mr. E. W. Nelson at Riverdale, Ill.\* — H. B. BAILEY.

**AUDUBON'S WARBLER IN MASSACHUSETTS.** — While collecting in the neighborhood of Cambridge, Mass., November 15, 1876, I was fortunate enough to obtain a fine specimen of Audubon's Warbler (*Dendroica auduboni*). It was a male, and the yellow of the throat was very plainly marked. Dr. Coues, in his "Birds of the Northwest," gives Laramie Peak as about the eastern limit of this species. Its occurrence here must, of course, be regarded as entirely accidental. — A. M. FRAZAR.

**OCCURRENCE OF THE SOOTY TERN IN MASSACHUSETTS.** — In Mr. Allen's "Catalogue of the Birds of Massachusetts" we find the Sooty Tern (*Sterna fuliginosa*) given, on the authority of Mr. E. A. Samuels, as a rare summer visitor to Muskeget Island. But for some reason Dr. Brewer, in his recent "Catalogue of the Birds of New England," withdraws this species from the New England list, and challenges its right to be regarded as in any sense a New England bird. I have the pleasure of replacing this species by recording the capture of a fine adult male on the Merrimack River near Lawrence, Mass., on October 29, 1876. I examined the specimen at the store of Mr. Charles I. Goodale, taxidermist, who has finely preserved it, and it is now in the possession of Mr. A. W. Howland of Lawrence. — RUTHVEN DEANE.

**THE BLACK GYR-FALCON (*Falco sacer* var. *labrador*) IN MASSACHUSETTS.** — A fine specimen of this Falcon was shot on Breed's Island during the latter part of October, 1876. It proved to be a male, in nearly adult plumage, and is now in the collection of Mr. C. I. Goodale, through whose kindness I have had the pleasure of examining it. — C. B. CORY.

**NOTES ON BIRDS NEW TO THE FAUNA OF MAINE, ETC.** — Of the following five species, three are here for the first time recorded as birds of Maine, another as found for the first time so far in the interior, and another as found for the first time breeding on the New England coast.

1. ***Ammodromus caudacutus* Swain.** SHARP-TAILED FINCH. — I have found this species, now, I believe, for the first time recorded as a bird of Maine, a rare inhabitant of a certain part of the great marsh in Scarborough.

2. ***Passerulus princeps* Maynard.** IPSWICH SPARROW. — On the 9th of October, 1876, I met with one of these birds on a sandy point on the northwest shore of Lake Umbagog, in New Hampshire. I should hesitate

\* See Bulletin of the Nuttall Ornithological Club, Vol. I, p. 40.

to record the occurrence of this species in a locality so far removed from its known haunts, it not having been before observed so far in the interior, since, from the miss-fire of two cartridges in succession, I failed to capture my bird, were I not perfectly acquainted with its almost unmistakable habits.

3. *Strix flammea* var. *pratincola* Bonap. BARN OWL. — Mr. L. C. Daniels, of this city (Portland), has in his possession a specimen of this owl which he shot in Falmouth, June 10, 1866. It was killed while flying across an open field. It has not, I think, been before recorded as found in Maine.

4. *Tringa bairdii* Coues. BAIRD'S SANDPIPER. — My brother, Mr. Philip G. Brown, shot a young male of this species as it was flying along Scarborough Beach, on September 9, 1875. It was in company with another bird, apparently of the same species, which escaped. This is its first recorded appearance on the coast of Maine.

5. *Thalassidroma leachii* Bonap. LEACH'S PETREL. — This Petrel breeds in large numbers on several of the outer islands of Casco Bay, southeast of Portland. Although I have often been told by fishermen and sportsmen of the existence of colonies of these birds on certain of our islands, I never was able to verify their reports until the middle of last August, when I made three visits to two barren rocks known as the "Green Islands," once in company with Mr. E. N. Atwood of Cape Elizabeth. I found about forty nests, half of which at this late date were empty, the remainder containing squabs in different stages of development. — NATHAN CLIFFORD BROWN, *Portland, Me.*, November 12, 1876.

NORTHERN RANGE OF THE SHARP-TAILED FINCH (*Ammodromus caudacutus*). — My friend, Mr. William Stone of Cambridge, has recently presented me with five specimens of the Sharp-tailed Finch which he shot at Tignish, Prince Edward's Island, on August 2 and 3, 1876. The locality where they were taken, as he describes it to me, was exceptional, — a wide waste of marsh, dry, and at some distance from the sea, grown up to bushes, with a few scattered dead pine stubs, remnants of a former forest. Throughout this tract these birds were abundant, the males singing on all sides from the tops of the bushes. The individuals examined are all adults in very pale, worn breeding plumage. Dr. Coues, in his "Birds of New England" (Proc. Essex Inst., Vol. V, p. 282), gives *Ammodromus maritimus* as occurring at Rye Beach, New Hampshire, but this record, he informs me by letter, was a mistake, the bird which he found there being *A. caudacutus*. The finding of the Sharp-tailed Finch in numbers at Tignish, taken in connection with the fact of its recent detection at Scarborough, Me., by Mr. N. C. Brown [see above], renders it extremely probable that it may occur regularly, at suitable localities, all along the intermediate line of coast. — WILLIAM BREWSTER.

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### CORRECTIONS OF NOMENCLATURE IN THE GENUS SIURUS.

BY DR. ELLIOTT COUES, U. S. A.

THE genus itself, and all three of its species, require names different from those now generally used.

1. NAME OF THE GENUS.—Originally written *SHIURUS* by Swainson, who invented the term; also found under the forms *Sciurus*, by ignorance, inadvertence, or typographical blunder, and *Siurus*, the latter being correct. The word is compounded of the Greek *σειω*, “I wave or brandish,” and *ώπος*, “tail”; it is precisely equivalent to the Latin *mota-cilla*, French *hache-queue*, English *wag-tail*. According to the rule that Greek *ε* becomes long *ι*\* in Latin, the word should be spelled *Siurus*, as was first done, I think, in the *Ibis* for 1859, by Messrs. Sclater and Salvin, and A. and E. Newton, so nearly simultaneously that I do not know to which of these scholars we owe the corrected orthography. *Seiurus* has been objected to on account of its identity in sound, though not in orthography, etymology, or signification, with *Sciurus*, “a squirrel,” by German purists, who have proposed to substitute *Enicocichla* or *Henicocichla*; but this is inadmissible: *Siurus* and *Sciurus* being as different as *thee*, objective case of second personal pronoun, and *the*, definite article.† (Lat. *Sciurus* = Gr. *σκιούπος* = “shadow-tail.”)

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\* So, also, *Melopelia*, *Chamaepelia*, *chrysoparia*, etc. (accent the penult), instead of *Melopeelia*, *Chamaepelia*, *chrysoparia*, etc.

† I am not of those rigid constructionists who require preservation of the original shape of a name, however faulty. While we cannot of course make actual substitution of one name for another without other than philological

2. NAME OF THE GOLDEN-CROWNED THRUSH.—Originally and usually written *aurocapillus*, which should give way to *auricapillus*. The word means simply "gold-hair," i. e., "golden-haired." The point is here: that the ablative of *aurum*, "gold," which is *auro*, is only to be used when the word with which it is compounded is an adjective or participial; otherwise *auri* is the correct form. If we were to employ the participial adjective *capillatus*, it would be correct to say *aurocapillatus*, i. e., literally and correctly, "haired with gold," *auro* being the *ablativus instrumenti*, that with or by means of which the bird is "haired." So we say rightly *aurocristatus*, *aurostriatus*, *auropunctatus*, crested, streaked, or speckled *with* gold, (color understood), but *auriceps*, *auricollis*, *Auriparus*, etc. So also, if we were to compound with the adjective *aureus*, "golden," we should say, e. g., *aureicauda*, not *aureocaudatus*. Either *aureicapillus* or *auricapillus* is correct, but *aurocapillus* is not.

3. NAME OF THE SMALL-BILLED WATER-THRUSH.—It is to be noted that *Motacilla noveboracensis* of Gmelin, 1788, is precisely the same as *Motacilla nævius* of Boddaert, 1783, both being based upon *Planche Enluminée* 752, fig. 1, which is the *Fauvette tachetée de la Louisiane* of Buffon, afterward the *New York Warbler* of Pennant and Latham. G. R. Gray seems to have observed this fact, but neither he nor any other author, according to my recollection, has acted upon the obvious requirement of the case, namely, that we must say *Siurus nævius* (Bodd.), instead of *S. noveboracensis* (Gm.). Very curiously, Gmelin in another place made this species out to be a variety of the Cape May Warbler, *Perissoglossa tigrina*; for, Gmelin's *Motacilla tigrina* var.  $\beta$  (and so, also, Latham's *Sylvia tigrina* var.  $\beta$ ) is based exclusively upon the *Ficedula dominicensis fusca* of Brisson, *Ornith.*, iii, 513, which is the Small-billed Water-Thrush. Vieillot, in 1807, noticed this curious circumstance, which authors have generally overlooked, and correctly allocated the synonymy. The name *nævius* is unobjectionable, has priority, and must obtain.

4. NAME OF THE LARGE-BILLED WATER-THRUSH.—This is properly *Siurus motacilla* (Vieill.), Bp., for the *Turdus motacilla*, accurately described and recognizably figured by Vieillot in 1807, is unques-

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reason, common sense certainly tells us to spell correctly if we can. If we are always to preserve the original forms of names, we must, for example, say *Scopula* instead of *Scolopax* — it so stands in LINN. *Syst. Nat.* i, 1766, p. 242.

tionably this species. Vieillot knew the other species, which he figured and described in the same work. Bonaparte called it *Sciurus motacilla* in 1850, though in 1824 he had called the other species *Turdus motacilla*, and Cabanis, in 1857, *Henicocichla motacilla*; but writers have usually adopted Audubon's term *ludovicianus*, proposed in 1832, notwithstanding that this author soon abandoned his species, under the wrong impression it was not different from *S. naevius*. "*Sciurus motacilla*" is not a very choice name, meaning "wagtailed Wagtail," but it is no worse than *Mus musculus*, *Xanthocephalus icterocephalus*, *Columba palumbus*, *Regulus satrapa*, and a host of other names, the two terms of which mean the same thing; nor as bad as *Sialia rialis*, *Cupidonia cupido*, the sense and sound of which agree.

I append the synonymy of the species of this genus, the list of names here to be given being much more accurate, more extensive, and more nearly complete than any hitherto collated:

**1. *Sciurus auricapillus.***

*Motacilla eurocapilla*, LINN., Syst. Nat. i, 12th ed. 1766, 334, No. 29  
(based on Brisson and Edwards, as below cited).

*Turdus eurocapillus*, LATH., Ind. Orn. i, 1790, 328, No. 6.

*Sylvia eurocapilla*, BONAP., Journ. Philada. Acad. iv, 1824, 35.

*Sciurus eurocapillus*, SWAINS., Philos. Mag. i, 1827, 369; Zoöl. Journ. iii. 1827, 171.

*Sciurus eurocapillus*, D'ORBIG., Ois. Cuba, 1839, 55.

*Sciurus eurocapillus*, SCL. & SALV., Ibis, i, 1859, 9. — A. & E. NEWT., ibid. 142.

*Enicocichla eurocapilla*, "GRAY." (Reference not at hand as I write.)

*Enicocichla eurocapillus*, BREWER, Proc. Bost. Soc. N. H. vii, 1860, 306.

*Enicocichla eurocapillus*, CABAN., Mus. Hein. i, 1850, 16.

*Turdus auricapillus*, LICHT., "Preis-Verz. Mex. Vög. 1830, 2"; Journ. f. Orn. 1863, 57. (Orig. ref. not verified by me.)

*Accentor auricapillus*, RICH., Rep. Brit. Assoc. for 1836, 1837, 172.

*Sciurus auricapillus*, BONAP., Conspl. Av. 1850, 306.

*Enicocichla auricapilla*, SCLAT., Proc. Zoöl. Soc. 1856, 293.

*Sciurus auricapillus*, COUES, Birds Colorado Valley, 187-, (MSS. ined.).

*Turdus citreus*, ??? MÜLLER, Syst. Nat. Suppl. 1776, 141 (very problematical).

*Motacilla canadensis*, BODDAERT, Tabl. Pl. Enl. 1783, 24 (in part; the first ref., to P. E. 398, f. 2, and the ref. to Edw. Gl. 252, are to this sp., but the other refs. are to *Dendraca coronata*).

*Turdus minimus*, BART., Trav. Fla., 1st Am. ed. 1791, 290bis (not of Lafr., nor of authors).

*Turdus coronatus*, VIEILL., Ois. Am. Sept. ii, 1807, 8, pl. 64.  
*Anthus coronatus*, GERHARDT, Naumannia, iii, 1853, 38.  
*Ficedula pensylvanica aurocapilla*, BRISS., Orn. iii, 1760, 504, No. 57.  
*Figuier à teste d'or de pensylvanie*, BRISS., op. loc. cit.  
*Golden-crowned Thrush*, EDW., "Glean. 91, pl. 252." (Not verified by me.)  
*Grivelette de S. Domingue*, BUFF., "Hist. Nat. Ois. iii, 317." (Not verified by me.)  
*Petite Grive de St. Domingue*, of Planche Enlum. 398, f. 2 (see the citation of Boddaert, above).  
*Grive couronnée*, VIEILLOT, op. loc. cit.  
*Land Kick-up*, GOSSLE, B. Jam. 1847, 152.  
*Golden-crowned Accentor*, *Golden-crowned Wagtail*, *Orange-crowned Accentor*, *Oven-bird*, of AUTHORS.

## 2. *Siurus nevius*.

*Motacilla neviae*, BODD., Tabl. 1783, 47; based on Pl. Enlum. 752, f. 1.  
*Siurus nevius*, COUES, Birds Colorado Valley, 187-, (MSS. ined.).  
*Motacilla noveboracensis*, GMEL., Syst. Nat. 13th ed. 1788, 958, No. 69  
 (based primarily on P. E. 752, f. 1 = *neviae* Bodd.).  
*Sylvia noveboracensis*, LATH., Ind. Orn. ii, 1790, 518, No. 33.  
*Turdus noveboracensis*, . . . . . ? — PEABODY, Rep. Orn. Mass. 1839, 306.  
*Turdus (Seiurus) noveboracensis*, NUTT., Man. Orn. orig. ed. i, 1832, 353.  
*Seiurus noveboracensis*, BONAP., Comp. and Geog. List. 1838, 21.  
*Siurus noveboracensis*, SOL. & SALV., Ibis, i, 1859, 10. — A. & E. NEWT.,  
 ibid. 142.  
*Seiurus noveboracensis*, HENSHAW, App. LL. Ann. Rep. Chf. Engr. U. S.  
 Army, for 1875, p. — (p. 59 of sep. paged pamph. List B. Arizona).  
*Enicocichla noveboracensis*, "GRAY." (Ref. not at hand; probably Gen.  
 of B.)  
*Henicocichla noveboracensis*, CABAN., "Schomb. Guiana, iii, 1848, 66";  
 Mus. Hein. i, 1860, 16.  
*Motacilla noveboracensis*, TURTON, Syst. Nat., English mal-version, i, 1806,  
 589.  
*Turdus (Seiurus) noveboracensis*, NUTT., Man. 2d ed. i, 1840, 402 (in part;  
 includes another species).  
*Siurus noveboracensis*, . . . . . ? — PRATTEN, Trans. Illinois Agric. Soc. i,  
 1855, 601.  
*Sciurus noveboracensis*, PUTNAM, Proc. Essex Inst. i, 1856, 209.  
*Motacilla tigrina* var.  $\beta$ , GM., Syst. Nat. 13th ed. i, 1788, 985, No. 153  $\beta$   
 (= Briss. iii, 513, No. 62, pl. 28, f. 5).  
*Motacilla tigrina*, 2, TURTON, op. loc. cit.  
*Sylvia tigrina* var.  $\beta$ , LATH., Ind. Orn. ii, 1790, 537, No. 110  $\beta$  (= GM.  
 No. 153  $\beta$ ).  
*Motacilla fluviatilis*, BARTR., Trav. Fla. 1st Am. ed. 1791, 291.  
*Turdus aquaticus*, WILS., Am. Orn. iii, 1811, 66, pl. 23, f. 5.

*Sciurus aquaticus*, Sw. and RICH., Fn. Bor. Am. ii, 1831, 229, pl. 43.  
*Turdus aquatus*, BONAP., Journ. Phila. Acad. iv, 1824, 34.  
*Sylvia anthoides*, VIEILL., "Nouv. Dict. d'Hist. Nat. 1817, 208." (Not verified by me.)  
*Turdus motacilla*, BONAP., Journ. Phila. Acad. iv, 1824, 35 (not of Vieill.).  
*Sciurus tenuirostris*, SWAIN., Philos. Mag. i, 1827, 369.  
*Sciurus tenuirostris*, GAM., Proc. Phila. Acad. i, 1843, 261.  
*Sciurus sulfurascens*, D'ORB., Ois. Cuba, 1839, 57, pl. 6.  
*Enicocichla sulphurascens*, "GRAY."  
*Sciurus sulphurascens*, BONAP., Conspl. Av. i, 1850, 306.  
*Henicocichla sulphurascens*, GUNDL., Journ. für Orn. 1855, 471.  
*Anthus lherminieri*, LESSON, "Rev. Zoologique 1839, 101." (Not verified by me.)  
*Sciurus gossii*, BONAP., Conspl. Av. i, 1850, 306.  
*Fauvette tachetée de la Louisiane*, BUFF., "Hist. Nat. Ois. v, 161"; Pl. Eulim. No. 752, f. 1 (is the basis of Bodd.'s and Gm.'s names).  
*Figuier brun de S. Domingue*, BRISS., Orn. iii, 1760, 513, No. 62, pl. 28, f. 5 (obviously this sp.; sole basis of *Mot. tigrina* var.  $\beta$ , Gm.).  
*Ficedula dominicensis fusca*, BRISS., op. loc. cit.  
*New York Warbler*, LATH., Syn. ii, pt. ii, 1783, 436, No. 29 (= *Mot. noveboracensis* Gm.).  
*Spotted Yellow Warbler*, var. A, LATH., Syn. ii, pt. ii, 1783, 483, var. A (= *Sylvia tigrina* var.  $\beta$ , Lath.).  
*Fauvette brune*, V., O. A. S., l. s. c.  
*Berry Kick-up*, River Pink, GOSSE, B. Jam. 1847, 151 (basis of *S. gossii* Bp.).  
*Grive de ruisseaux, ou Hochequeue*, LE MOINE, Ois. Canad. 1861, 173.  
*Water Thrush*, *New York Water Thrush*, *Aquatic Wagtail*, *Aquatic Wood-Wagtail*, *Aquatic Accentor*, of AUTHORS.

### 3. *Sciurus motacilla*.

*Turdus motacilla*, VIEILL., Ois. Am. Sept. ii, 1807, 9, pl. 65 (not of Bp., 1824).  
*Sciurus motacilla*, BONAP., Conspl. Av. i, 1850, 306.  
*Henicocichla motacilla*, CAB., Journ. für Orn. 1857, 240.  
*Sciurus motacilla*, COUES, Birds Colorado Valley, 187-, (MSS. ined.).  
*Turdus ludovicianus*, AUD., Orn. Biog. i, 1832, 99, pl. 19 (afterward merged in *S. noveboracensis*).  
*Sciurus ludovicianus*, BONAP., Comp. Geogr. List. 1838, 21.  
*Sciurus ludovicianus*, SCLAT., P. Z. S. 1859, 363.  
*Sciurus ludovicianus*, TRIPPE, Proc. Bost. Soc. xv, 1873, 234.  
*Henicocichla ludoviciana*, SCLAT., Cat. Am. B. 1860, 25.  
*Henicocichla major*, CABAN., Mus. Hein. i, 1850, 16.  
*Enicocichla major*, BREWER, Proc. Bost. Soc. Nat. Hist. vii, 1860, 306.  
*Grive hochequeue*, VIEILL., l. s. c.  
*Louisiana or Large-billed Water Thrush*, AUTHORS.

NOTES ON THE BREEDING OF THE BLACK TERN (*HYDRO-CHELIDON LARIFORMIS*) IN MINNESOTA.

BY T. S. ROBERTS.

THE Black Tern is the most abundant representative of its family in this State, making its appearance in the vicinity of Minneapolis about the middle of May. Stragglers remain until the first week in September, but the majority leave during the latter part of August. For a short time after their arrival they are to be seen flying leisurely around the larger lakes; but as the nesting-season approaches they select some prairie slough or marshy lake, and there spend the greater part of their time until the young are able to fly. Late in May or early in June the nest is built and the eggs are laid, or the eggs are deposited without any nest, as the case may be. Dr. Coues mentions (Birds of the Northwest, 1874) meeting with a colony breeding along the Red River, and states that there were no nests whatever, the eggs being placed on beds of decaying reeds. Such is their habit under some circumstances, but only two instances of the kind have come under my notice as yet. Once, I found three eggs laid directly on the mud on an abandoned, broken-down muskrat house in the midst of a large slough. The same day I found another set of two eggs on a bed formed by the bending over of the tops of some tall dead grass. They were thus raised more than a foot above the water, which was of considerable depth. There was no indication of a nest, the eggs being held in place by resting among the coarse grass. A very interesting and valuable note on this subject occurs in a short article by Dr. P. L. Hatch, published in the Bulletin of the Minnesota Academy of Natural Sciences for 1876. It is an extract from a letter written by Mr. E. W. Nelson of Chicago, and although the observations were not made in this State, I will introduce them here: "I have seen the eggs of *Sterna plumbea* deposited on masses of floating weeds in several instances, but only for the *third* brood, the bird having previously built two nests and deposited the eggs in both, which had been removed by myself to ascertain how many they would lay. The result was almost invariably as follows: first nest, three eggs; second nest, two eggs; and the third, one egg. In

several instances I found the nests floating in two and a half to three feet of water without the least sign of floating rushes in the vicinity ; in fact, there were no rushes or anything else except fine swamp grass growing anywhere near, and of this the nests were built."

As already stated, they build in this section (vicinity of Minneapolis) in the latter part of May or early in June, usually placing the nest in a prairie slough or marsh bordering an open pond. The material used in the construction is short bits of grass and reeds disposed in such a manner that a neat, but loose structure is formed. Occasionally greater skill is displayed, longer material being used, which is slightly interwoven, so that the nest may even be removed alone without injuring it. These frail structures are sometimes found upon floating masses of decayed débris, and when so situated it is necessary, with but few exceptions, to detach a portion of this underlying bed in order to remove the nest intact. But they are oftener placed upon the tops of small mounds of partially decayed vegetable matter. These mounds, undoubtedly made by the Terns as foundations for their nests, are seven or eight inches in diameter, and rise one or two inches above the surface of the water. They are placed over beds of live moss, and are partly supported by the water and partly by the moss below. It takes but a slight motion of the water to rock them, and they would undoubtedly often go adrift were they not generally protected by the grass growing around them. To obtain the nest in good condition the hand may be inserted beneath the pile and the whole lifted up.

The average external diameter of the nest of this Tern is about five inches ; internal diameter, three inches ; while the depth varies from a slight depression to three fourths of an inch or more. The eggs are either two or three in number, perhaps oftener three than two. Their ground-color varies from deep brown to greenish white. The markings consist of blotches, dots, etc., of various shades of brown. On some specimens there are a few, and on others numerous, obscure pale spots in the shell. Frequently the markings are nearly equally distributed over the entire surface of the egg, but usually are aggregated to form a wreath around the larger end. So far as my observations have extended, all the eggs taken from one nest have about the same ground-color and character of marking. The average measurement of fifteen eggs before me is 1.35 inches in length by .98 inches in width.

During the day the parent birds sit on the nest very little, leaving the incubation of the eggs greatly to the heat from the sun and the warmth arising from the damp decaying vegetable matter upon which they rest, for the nests are almost always moist inside. When the site where a colony is breeding is approached nearer than the parent birds deem safe, they make a great clamor, and dart repeatedly at the head of the intruder, occasionally venturing within a foot or two. If the nest of a pair be removed, and the birds left to themselves, they show considerable distress at their loss. Hovering over the spot from which the nest has been taken, they utter incessant cries and frequently alight to look in vain for their lost treasure. All the Terns in the neighborhood join in the cries of the bereaved pair, and the lamentation becomes general.

I once had the fortune to meet with a young Tern of this species which had evidently entered this world but a few hours before. It was a curious-looking little creature, and could swim very well. The following description may convey some idea of its appearance: body covered with a soft, fluffy down; beneath, pale sooty; above, obscure yellow, washed with grayish, and tinged with rufous on the posterior parts of the body. Scattered over the upper parts were irregular spots of black. The under surfaces of the wings, lores, and feathers next the base of the upper mandible were white. The bill was black, with a white spot at the end of the upper mandible. Legs very dark flesh-color, with a reddish tinge.

I am of the opinion that these miniature Terns leave the nest very soon after emerging from the egg. The one just described was found swimming about several feet from the nest, while just at the time one of his brothers was working his way into the world by neatly cutting the shell into halves with the point of his bill.

As soon as the young Terns are able to fly they are conducted to some suitable situation around a pond or lake, where they can sit while the parent birds supply them with food. I once counted thirty-seven sitting thus at one time on four or five panels of fence, which extended from the shore a short distance into a lake.

MINNEAPOLIS, MINN.

## TWO UNDESCRIPTED NESTS OF CALIFORNIA BIRDS.

BY WILLIAM BREWSTER.

THE following nests, previously unknown to science, were collected for me by Mr. Charles A. Allen, of Nicasio, Marin County, California : —

1. CALIFORNIAN PURPLE FINCH (*Carpodacus purpureus* var. *californicus*, Baird). Two nests of this variety of the Purple Finch taken at Nicasio, Marin County, California, are before me. The first, with a set of five eggs, was collected May 10, 1876. It is a somewhat smaller structure than the nest of the Eastern bird, and is much more closely compacted. It measures externally 5.75 inches in diameter, by 2.75 in depth. Internally 2.00 inches in diameter by 1.50 in depth. The outer framework is composed of rather fine weed-stalks and coarse grasses firmly interwoven, while the inner nest is fitted smoothly and warmly with a peculiar fibrous hemp-like material of a rich bay color. This nest was found in a garden in Nicasio. It was placed in the fork of two limbs at the height of about eight feet above the ground. The eggs differ very materially from those of *Carpodacus purpureus* var. *purpureus*, and much more closely resemble eggs of the House Finch (*C. frontalis*). Their ground-color is *white* with a scarcely perceptible shade of bluish, about as much, in fact, as obtains in average eggs of the Indigo Bird (*Cyanospiza cyanea*). A very few lines and dots of black or dark brown about the larger ends constitute the only markings. They are in shape a blunted oval, and measure .73 of an inch in length by .55 in breadth. The other nest contained young, and as it was not secured until after they had left it, is in rather poor condition. It, however, agrees very closely with the one just described, and is lined with the same peculiar material. The parent bird — a male — sent with these nests is quite typical of the variety which it represents.

2. RUFOUS-CROWNED SPARROW (*Peucaea ruficeps*, Baird). — A nest of this species collected by Mr. Allen on Black Mountain, near Nicasio, July 10, 1875, presents the following features : It is outwardly composed of coarse grass and weed-stalks, and lined somewhat scantily with horse-hair. It is very loosely put together, and the original shape is so nearly destroyed that measurements are almost impracticable. An approximation would, however, be nearly as follows : External diameter, 4 inches ; internal, 2.25 inches. External depth, 2 inches ; internal, 1.25 inches. It contained three pure white eggs, which measure .89 of an inch in length by .65 in breadth. The locality was an open heathy tract on the mountain-side, and the nest was placed on the ground under a bush. Mr.

Allen, having only his rifle with him at the time, was unable to secure the female, but as she sat closely and was distinctly seen by him, there seems little reason to doubt the correctness of the identification, especially as in position of nest, color and size of eggs, etc., we find nothing incompatible with the corresponding breeding characteristics of the other and better-known species of this genus.

Mr. Allen has since informed me, by letter, that a nest satisfactorily determined as belonging to this species, and which agrees closely with the one just described, was discovered by Captain Charles Bendire in Oregon (?).

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#### A CONTRIBUTION TO THE BIOGRAPHY OF WILSON'S PHALAROPE.

BY E. W. NELSON.

ALTHOUGH this species (*Steganopus wilsoni*, Coues) is more or less common in portions of the country frequently visited by Ornithologists, it is remarkable that its life-history should be so little known. The account of nearly every author who has mentioned the species contains more or less error, and none give anything like a complete history of it. To remedy this to some extent is the object of the present paper, since I have had abundant opportunity for observing the bird in the field.

But first I wish to make a few quotations from and remarks upon the principal accounts of the species. Ord, in his edition of "Wilson's Ornithology" (Vol. III, p. 205), states as follows: "Our figure of this species [*Phalaropus lobatus*, Ord] bears all the marks of haste; it is inaccurately drawn, and imperfectly colored; notwithstanding, by a diligent study of it, I have been enabled to ascertain that it is the *Coot-footed Tringa* [*Phalarope*] of Edwards, pls. 46 and 143, to which bird Linnaeus gave the specific denomination of *lobatus*." Thus far Ord is undoubtedly correct, as is evident by a comparison of the plates in question. As Dr. Coues has already stated (Birds of the Northwest, p. 467), *Tringa lobata*, Linn. is *Lobipes hyperboreus*, (L.) Cuv., and I perfectly agree with Ord in referring Wilson's plate to the same species; but farther on Ord describes an undoubted specimen of *Steganopus wilsoni*, taken near Philadelphia, as being identical with Wilson's plate of *lobatus*, which is certainly a bad case of mal-identification. From references I have been enabled to make, I

think it extremely doubtful that Wilson ever saw a specimen of *S. wilsoni*.

Audubon's account of the sexes of this bird is quite erroneous. Concerning a pair taken near Great Egg Harbor, in June, 1829, he states that, "on examining the birds when we returned, I saw that the female had been sitting";\* and on the opposite page, "I observed scarcely any difference in the coloring of the sexes, the female being merely larger than the male"; and he again states: "The female, which is somewhat larger, is in color precisely similar to the male." The few specimens seen by Audubon during the breeding-season were apparently all females, and, taking it for granted that the males were equally bright, he so stated. In his plate of this species he figures a "female" young of the year and an adult "male," which is, in reality, a female in breeding plumage. Audubon's statement regarding the likeness of the sexes in the breeding plumage has been accepted as true by subsequent authors, even when they have had the opportunity to settle the matter for themselves in the field.

Nuttall adds considerable to the known range of the species, but makes his statements curiously conflicting, as the following quotations show: "Taking the interior of the continent for its abode, it is seen not uncommon on the borders of lakes, in the vicinity of the City of Mexico. In these situations, choosing the shelter of some grassy tuft, it forms an artless nest, in which it deposits two or three pyriform eggs, between yellowish-gray and cream-color, interspersed with small roundish spots and a few larger blotches of umber-brown somewhat crowded towards the obtuse end." He also states that "it is unknown in summer beyond the 55th parallel, passing the period of reproduction on the plains of the Saskatchewan, being also a stranger to the coasts of Hudson's Bay"; and again, that "*in the United States it can only be considered as a straggler.*" †

Dr. Coues, in his "Birds of the Northwest," arranges the synonymy of the species in a very satisfactory manner, but makes essentially the same statement as Audubon regarding the sexual plumages, and adds nothing of importance to the life-history of the species. To Mr. A. L. Kumlien‡ is due the credit of being the

\* Birds of Amer., Vol. V, pp. 229, 230, pl. 341.

† Man. Orn., Vol. II, pp. 245, 246.

‡ Field and Forest, July, 1876.

first to announce the true relations of the sexes of this species. His statements that "the male attends to the duties of incubation almost entirely alone," and that "not only is the female much more brilliant in plumage, but also considerably larger," are certainly true, but that the females "pursue" the males during the pairing-season seems to me to be rather doubtful, unless, as might be the case, Mr. Kumlien has mistaken for this their habit of flying restlessly about the marsh in small parties of three or four individuals, when the males are usually in advance. At these times the nearest approach I have observed to pursuit is in a habit they have of suddenly darting off for a short distance at right angles to their general course, but this appears to be in mere sport, for nearly the same relative positions are kept by the birds, and this erratic course is rarely pursued beyond a few rods.

In fact, throughout the pairing-season I have always found the Phalaropes very undemonstrative toward each other, the choice of mates being conducted in a quiet, unobtrusive way, quite unlike the usual manner among birds. Neither have I ever seen the males "drop as if shot, within two feet of me, and feign the most distressing pains," when the nest is discovered; nor even when the newly hatched young have been captured do they evince any such emotion, and at no time have I ever seen any more anxiety shown by the male than by the female. Mr. Kumlien describes the nest as being built in a tussock of grass, "much in the same manner as the *Agelaius phoeniceus*," which is certainly a considerable variation from the situations chosen by the birds in Northern Illinois, as a comparison of the above statement with my description of the situation of the nest will show.

My experience with the species has been to prove that during the breeding-season, at least, they are averse to any large body of water, and I have never found the young away from the midst of the grassy marshes until fully fledged. The last author before quoted, however, states that "the young are conducted to the shore soon after they are hatched, and if suddenly surprised take to the water and swim and dive with the greatest ease."

In Northern Illinois, where the following observations were made, Wilson's Phalarope is the most common summer resident, occurring about grassy marshes and low prairies, and is not exceeded in numbers by even the ever-present Spotted Sandpiper. As is the case with several other species of birds, Lake Michigan appears to form

a limit to its common occurrence in the eastern portion of its range. On the west it extends to the Rocky Mountains, and between these limits it has been recorded during the breeding-season from the Saskatchewan to the Arkansas (Coues) and to the city of Mexico (Nuttall). It is more closely confined to its favorite haunts than most water-birds, and this may, in a measure, account for the little hitherto known regarding its habits. During the first two weeks of May, the exact date varying with the season, this beautiful bird first makes its appearance in Northeastern Illinois. Its arrival is heralded by a few females, which arrive first, and are found singly about the marshes. At this time the females have a peculiar, harsh note, which I have heard but a few times, and only from solitary individuals before the arrival of the main body.

A few days later small flocks, embracing both sexes, may be found along the borders of grassy pools, or lying at midday on the sunny side of some warm knoll in the marsh. As the breeding-season approaches they become more restless, flying from place to place, and finally separate into small parties of two or three pairs. About the middle of May their love-making commences, and is at first indicated by the increasing solicitude they show for each other's welfare. The appearance of a person in their vicinity at this time is the signal for all the birds near to come circling about, though generally not within easy gunshot. By a careful approach one may now and then find a small party swimming about in some secluded pool. The charming grace of movement exhibited at such times, combined with their tasteful elegance of attire, form one of the most pleasing sights one could witness, as they swim buoyantly from side to side of the pool, gracefully nodding their heads; now pausing an instant to arrange a feather, or to daintily gather some fragment of food, and now floating idly about, wafted by the slight breeze which at intervals ripples the surface of the water. A more common, but scarcely less pleasing sight is presented when, unconscious of observation, they walk sedately along the border of the water, never departing from their usual easy grace of movement. Their food is generally found in such places, where the receding water furnishes a bountiful supply. The only demonstrations I have observed during the pairing-time consist of a kind of solemn bowing of the head and body; but sometimes, with the head lowered and thrust forward, they will run back and forth in front of the object of their regard; or again a pair may often be seen to

salute each other by alternately bowing or lowering their heads; but their courtship is characterized by a lack of the rivalry and vehemence usually exhibited by birds. A male is often accompanied by two females at first, but as soon as his choice is made the rejected bird joins her fortunes with some more impulsive swain.

The nesting-site is usually in some thin tuft of grass on a level spot, but often in an open place concealed by only a few straggling blades of small *carices*. The male scratches a shallow depression in the soft earth, which is usually lined with a thin layer of fragments of old grass blades, upon which the eggs, numbering from three to four, are deposited about the last of May or first of June. Owing to the low situations in which the nests are placed, the first set of eggs is often destroyed by a heavy fall of rain, causing the water to rise so as to submerge the nest. In this case the second set, numbering two or three, are often deposited in a depression scratched in the ground, as at first, but with no sign of any lining. Accidents of this kind cause the second set of eggs to be sometimes deposited as late as the last of June.

The young usually appear about the third week of June, and are able to fly in about three weeks. Generally a number of pairs nest upon the same marsh. In some instances as many as fifty may be counted within the radius of a mile; but, notwithstanding this, their nests are extremely difficult to discover, the material and the color of the eggs correspond so closely to the appearance of the surrounding surface. If they are disturbed while building, the nest is usually abandoned. Incubation is attended to by the male alone.\* The female, however, keeps near, and is quick to give the alarm upon the approach of danger. The females are frequently found at this time in small parties of six or eight; and should their breeding-ground be approached, exhibit great anxiety, coming from every part of the marsh to meet the intruder, and, hovering over his head, utter a weak nasal note, which can be heard to

\* [As above stated by Mr. Nelson, Mr. Kumlien was the first to call attention to this fact, as regards the present species, as well as to the fact of the female being larger and brighter-colored than the male. European authors have recorded the same sexual peculiarities of plumage in the Red and the Northern Phalaropes (*Phalaropus fulicarius* and *Lobipes hyperboreus*), and also, in respect to the former, that the male alone undertakes the duties of incubation. In these species the male is said to show much greater devotion to the young, when exposed to danger, than does the female.—J. A. ALLEN.]

only a short distance. This note, which is possessed by both sexes, is nearly always made while the birds are in the air, and its production requires apparently considerable effort; the head and neck being inclined downward, and then suddenly raised as the note is uttered, the flight being at the same time momentarily checked. The movements of the birds usually render it an easy matter to decide whether or not they have nests in the immediate vicinity. After the first alarm, those having nests at a distance disperse, while the others take their course in the form of an ellipse, sometimes several hundred yards in length, with the object of their suspicion in the centre; and, with long strokes of their wings, much like the flight of a Killdeer, they move back and forth. As their nests are approached the length of their flight is gradually lessened, until at last they are joined by the males, when the whole party hover low over the intruder's head, uttering their peculiar note of alarm. At this time they have an ingenious mode of misleading the novice, by flying off to a short distance and hovering anxiously over a particular spot in the marsh, as though there were concealed the objects of their solicitation. Should they be followed, however, and a search be there made, the manœuvre is repeated in another place still farther from the real location of the nest. But should this ruse prove unavailing, they return and seem to become fairly desperate, flying about one's head almost within reach, manifesting great distress. If possible, still greater agitation is shown when they have unfledged young, — they even betraying their charge into the hands of the enemy by their too obvious solicitude, they then hovering directly over the young, and uttering their notes of distress. The young have a fine, wiry peep, inaudible beyond a few feet. They are very pretty little creatures, covered with yellowish-buff-colored down, with black spots on the upper surface of the body. Even when first hatched they are quite lively and difficult to capture.

About the middle of July the females suddenly disappear, and a little later the males and the young also leave, with the exception of a few stragglers, which occasionally remain until the last of August. The main portion rarely remain as late as the 10th, and are usually gone by the 5th. The males commence their fall moult before they leave; but I have never taken a specimen in which the winter plumage was very evident.

## A DEFENCE OF HIS CATALOGUE OF THE BIRDS OF NEW ENGLAND.

BY T. M. BREWER.

MESSRS. EDITORS: — There were two objects set prominently in view in my list, and distinctly stated. One was to furnish a list that shall be reliable *so far as it goes*. The other was to present a separate list of those birds attributed to New England, but in regard to which, up to May, 1875, I could \* "find no evidence that would warrant me in retaining them." These statements seem sufficiently intelligible. The one suggests the incompleteness of the list and my expectation of additional facts. The other explains the challenged list as one given, after many years of careful investigations, as my own conclusions, for which I alone am responsible. It is my indisputable right, having made my own investigations, to form and to express my own conclusions.

In confining myself to what is reliable I necessarily had to omit all generalizations where the data were open to conflicting constructions. Thus in referring to seven species I confined myself to the single prominent feature in their New England life, their residence here in summer. The record shows (*North American Birds, passim*) that I was also well aware of their more or less limited presence in winter. To my mind their occasional presence does not necessarily prove them to be, properly speaking, *resident*, a term only applicable to cases where the same individuals are both generally and constantly present. It should not be applied, except with careful qualifications, to species where this presence is limited to a small proportion, or where it may be altogether doubtful.

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\* My friend Mr. Deane, in recording the capture of *Sterna fuliginosa* near Lawrence, Mass., speaks of my having for some unknown reason *withdrawn* this species from the New England list and of its being now *replaced*. I object to this phraseology as calculated to give an erroneous impression. If the bird had been rightfully in the list, it was not in my power to *withdraw* it. If there is no evidence in favor of this right, it cannot be *replaced*. It was first mentioned by Mr. Samuels as breeding in Muskegat. Every one familiar with that island knows that there is not even a probability that it has ever done so. The whole statement was obviously incorrect. So well satisfied was Mr. Samuels himself of the incorrectness of his information that in his "Ornithology of New England" he omits this species. This Tern is now generally regarded as a cosmopolitan, intertropical species, rarely occurring north or south of the two tropical lines, and is not known to have occurred on Long Island, the coast of New Jersey, or anywhere north of the Chesapeake prior to the present record.

To my mind it is simply an absurdity to speak of a species as *resident* when not one individual of the entire species resides in any part of New England more than a fraction of the year. The word "race" is still a good English word, the meaning of which is so obvious that there is no occasion for misunderstanding it. According to Worcester it is "a series of descendants from one stock." In this sense, and in this only, our Summer and our Winter Robins are of different races, though specifically the same.

*Corvus americanus*, considered as a bird of *all* New England, is almost exclusively a summer resident. The few that winter are the exception, not the rule; are restricted to a very small part of New England; and are probably merely winter visitants from beyond our borders, and therefore not residents. What your correspondent quotes from my language in reference to *Picus villosum* had reference to all the United States, and not exclusively to New England, though in a more restricted sense it is also applicable. I cheerfully admit that in this case it would have been more correct, on my part, to have given it qualified as partially a resident.

It is not safe to assume, because a limited number of individuals of the other four species named are occasionally taken here in the winter, that they are necessarily resident. Without attempting to generalize, on data to my mind insufficient, I confined myself to that feature in their New England life in regard to which there would not be two opinions, leaving in abeyance all that admits of controversy. These birds are probably only winter visitants, and in no proper sense resident, or only very exceptionally resident.

Your correspondent takes up nearly a third of his second article with various *opinions* as to the occurrence in New England of the five species that formed the subject of his interrogation in his first article. But when I ask for bread he gives me only a stone. I ask for *facts*, and he gives me only *opinions*. He does not cite a single reference that I had not already fully considered. In one instance, while he goes back several years to cite opinions then expressed, but long since given up, he omits to quote the views now entertained by the same party, and in entire variance with what he does cite. In reference to *Quiscalus major*, he quotes Dr. Coues's opinion given in 1868. Twice since then Dr. Coues has publicly given his opinion *against* the occurrence of this species north of the Carolinas; first, in his admirable biography (*Ibis*, IV. 1870) of this bird, where he speaks of it as "restricted to a narrow belt along the coast of the ocean and gulf from North Carolina to Mexico, and as rarely ever occurring north of the Carolinas"; secondly, in a work with which, judging from his quotations, your correspondent seems to be sufficiently familiar (*Birds of the Northwest*, p. 204), where he speaks of it as "not authentic in New England." Why rake up an opinion given nine years ago and long since disclaimed? Why omit his real opinion now? Dr. Linsley was a correspondent of mine, and from his own account of this species I was satis-

fied that his opinions as to its occurrence were based wholly on hearsay and unreliable testimony, and subsequent claims, when tested, were invariably of the same vague, inconsistent, and contradictory character. Positive proof, such as the preservation of the alleged species or reliable witnesses, was never forthcoming. The occurrence of this peculiarly semi-tropical and local species in New England, when totally unknown north of the Chesapeake, was in itself so improbable that in the absence of any proof I could only discredit such claims. In this opinion I am fully sustained by your correspondent's strongest witness, Dr. Coues.

The same is eminently true of *Corvus ossifragus*. Your correspondent can cite only opinions. Even Mr. Brewster's record of its occurrence, though he is an expert as little likely to be mistaken as any one, does not even now, to my view, bring this species into the list of those whose occurrence with us has been indisputably proven, though it may make its future capture more probable.

In regard to *Ægialitis wilsoni*, we have the opinion of Mr. Linsley, which rested upon no evidence ; of Dr. Coues, given inferentially and with a "perhaps" ; of Dr. Wood, on Long Island (!) ; of Mr. Allen ; and again of Dr. Coues, the latter again speaking qualifedly ("probably"). What I have said of this species still stands uncontroverted by any *facts*, and the opinions cited are in full accordance with my own given in my list. *Nettion crecca*, as I state, "is a bird liable to occur in New England," but the only instance cited was founded in error on hasty, and, as I satisfied myself at the time, incorrect conclusions. The specimen had been taken in North Carolina and not in Massachusetts. *Sula fiber*, from Mr. Linsley's own account of the specimen, which was not preserved, proved to be an immature *Sula bassana*. Mr. Putnam wrote me that he could give me no authority for his reference.

Your correspondent is skeptical in regard to *Ægiothys canescens*, *Myiodictes minutus*, *Anser gambeli*, *Bernicla hutchinsi*, *Lagopus albus*. In regard to the last-named I feel somewhat doubtful myself. The first rests on the high authority of Mr. G. A. Boardman ; the second, waiving the specimen I took myself in 1836, and which was identified by Mr. Audubon, rests on the excellent authority of a good ornithologist, Dr. Charles Pickering, confirmed by no less authority than that of Mr. Nuttall himself. *Anser gambeli*, between 1836 and 1846, was much more common than it apparently is now, but even now there is no lack of evidence of its presence, though it may have escaped your correspondent's notice. A fine specimen in immature plumage has been recently taken in Gloucester, and is now in the collection of Mr. William Jeffries of Boston. In the winter of 1836-1837, Hutchins's Goose was abundant in our market from this neighborhood, as was also the Pied Duck, the Harlequin, and others now rarely seen. Several specimens were procured by me, preserved in alcohol, and sent to London for Mr. Audubon's anatomical investigations.

In my list are six or seven species given without defining the extent of their distribution,—some of them, though found to my certain knowledge all over New England, and beyond its borders, are only found in favorable localities; others probably have a more restricted range. In regard to all these, my views as to the extent of their range are fully given elsewhere, and, as your correspondent shows, are sufficiently known to him. Yet in spite of this knowledge he did not scruple to attribute to me views which he now shows he knew I did not entertain. This is especially noticeable in the case of *Vireo noveboracensis*. Here, as it seems, he knew that it is my recorded opinion that this bird rarely, if ever, goes north of Massachusetts, yet he professes to understand me as signifying *all* New England, when I had not said so, and when I had elsewhere—unrestricted as to space—stated that I did not so believe!

And where are his *facts* demonstrating that *Helminthophaga chrysoptera* is not a *rare* bird in New England? We have again only an *opinion* that a bird must not be called rare if it regularly breeds here in numbers. The numbers must be very small in this case, and the finding of the fourth nest during ten or twelve years' search by hosts of collectors, is to be spoken of in the future tense! A bird that has only been found in a very restricted area, perhaps a thousandth part of New England, and so uncommon that only two or three of its nests have ever been taken, must not be spoken of as rare!

In the case of *Coturniculus passerinus* your correspondent is excusable for misunderstanding my real meaning, as it is somewhat blindly expressed. What I intended to convey was, that while it is chiefly confined to Southern New England, it is, as a general rule, rare throughout a very extended region into which it sparsely spreads itself. Wherever found it is a species of very irregular and unequal distribution. It wanders into Northern New England, and occurs even as far to the northeast as St. Stephen, N. B. In all this extended area the localities in which it can be said to be at all common are restricted in area and few in number. Your correspondent refers to its being exceptionally common in Nantucket. All this while he well knew that the fact of its abundance on that congenial island was well known to me. (See *North American Birds*, Vol. I, p. 554, lines 20, 21 and 22.)

More than forty years ago I ventured to publish a supplementary list of the birds of Massachusetts (*Boston Jour. Nat. Hist.*, I, 435). In this list I placed inferentially and with a ? *Polioptila caerulea*. From that day to the time of the publication of my catalogue I have vainly sought for any confirmation of my supposition. Your correspondent is the first to come to my support and to confirm my conjecture, but, prior to May, 1875, there is no "record" whatever confirmatory of its claim to be counted as a bird of New England. Yet because, nearly two years after the preparation of my paper, your correspondent hears of its having been taken in

Connecticut, he speaks of "its record of occurrence having been as good as any of those just cited"; that is, a *subsequent* occurrence can establish a *prior record*!

The same indefensible claim is made in behalf of *Dendreca caerulea*. This was given by Mr. Putnam as a bird of Essex County, on the supposed authority of Mr. Brickett of Portland. Mr. Brickett, when appealed to, wrote me that he had been misunderstood, that he only referred to *D. caerulea*. So *D. caerulea* fell to the ground, and was left with absolutely no record. Its record is now wholly *ex post facto*. The fact remains indisputable that there was no authentic record of its appearance in New England at the time I so stated.

Having exhausted the all too insufficient limits to which I am restricted, I am compelled to omit nearly all that I have written in reference to *Micropalama himantopus*. I will only state that in characterizing it as "migratory, Mass." I should have added "N. H." in which it has been taken twelve miles from our boundary line. Though invited to do so, your correspondent is unable to give any data to show that it is migratory along the entire New England coast. It has not been found in any part of that coast from St. Andrew's to Kittery, or from Buzzard's Bay to East River, and the sweeping statement of your correspondent still remains an entirely unsupported assumption.

Here all controversy, on my part, with your correspondent ends. Whatever reference I may hereafter make to any facts or opinions bearing upon any of our New England birds, will be without any reference to a controversy that has been forced upon me, but in which I cannot do full justice to myself without becoming an infliction upon your readers.\*

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## Recent Literature.

BURROUGHS'S "WAKE-ROBIN."—Hurd and Houghton have reprinted Mr. John Burroughs's charming little volume "Wake-Robin," wherein the wild wood-life of the birds, from Washington to the Adirondacks, is picturesquely sketched. Mr. Burroughs has a keen eye and a loving heart towards the birds, and it is encouraging to know that this volume of his ornithological essays finds a continued sale. The present edition differs from the original (although it is labelled "revised") only in the addition of a chapter on the Bluebird, the addition of a copious index, and in the

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\* By some oversight, which I can neither explain nor excuse, *Dendreca blackburniae* is omitted in my catalogue. It should have been given as breeding at least as far south as Massachusetts. The latest instance was noticed by Mr. Geo. O. Welch of Lynn last summer.

insertion of some wood-cut illustrations from Baird, Brewer, and Ridgway's large work, which, with the exception of the frontispiece, by Miss Brydges, almost uniformly mar, rather than beautify the volume. The very first is of an inconsolable Olive-sided Flycatcher, which is written down "Hermit Thrush"! But this is the fault of the publishers, who also betray their ignorance in the bad spelling of the preface, and not of the author, who did not see the proof-sheets. It is to be hoped that Mr. Burroughs will collect his later essays on birds into a second volume, which would meet with a very hearty welcome. — E. I.

MINOT'S "BIRDS OF NEW ENGLAND."\* — It would not be generous, or even just, to criticise this work as a scientific treatise or as a mature production. We prefer to side with the youthful author, who is evidently a lover of birds, keenly alive to the delights they are capable of affording, and enthusiastic in the pursuit of his favorite study, who has in an incredibly brief period trained himself to become a really good observer, and who shows that he possesses qualities which go to make a first-rate ornithologist. In this volume he not only imparts to others the knowledge of birds he has acquired, but also endeavors to awaken the same pleasurable emotions he has experienced in the acquisition: the former design is carried out with fidelity, precision, and detail, while the freshness, *naïveté*, and no little good taste which the literary execution of the work displays will go far toward meeting the latter indication; for the color of personality — if it be the genuine thing, as it is in this case unquestionably — always lends a charm to natural-history narrative. The work, moreover, shows traces of kindly interested supervision during its preparation, and the contributions to its pages are not the least valuable of its contents. There is very little technicality, chiefly taken from Baird and another writer; the descriptions, however, are tersely original. The instructions for collecting eggs differ from those ordinarily given mainly on the score of humanity, showing what may be accomplished without destroying the parents; but we waver here, saying frankly that as between a bird's life and the identification of an egg we are merciless. Next after the biographies of the birds, which are conveniently divided into sections relating respectively to the nest and eggs, the general habits, and the song or other notes, and which embody no little information not already the property of ornithologists, — on the night-habits of some species, for instance, — the most prominent and most original features of the work are the artificial "keys," in one of which the birds themselves are analyzed somewhat after a method lately introduced, the eggs of

\* The Land-Birds and Game-Birds of New England, with Descriptions of the Birds, their Nests and Eggs, their Habits and Notes. By H. D. Minot. Salem, Mass.: Naturalist's Agency. Boston: Estes and Lauriat. "1877" [i. e. Dec., 1876]. 1 vol. 8vo. pp. xvi, 456, figg. xylog. 29 (on 1 pl.) + 22 (in text).

Massachusetts birds being similarly handled in the other. Those who are familiar with these "short cuts" know that it is a stand-off between convenience and fallibility; but the reviewer is the last person who should find fault with them. To appreciate Mr. Minot's work as a whole, we may say that its defects are in no way the author's fault, and that they are of the obtrusive and superficial rather than of the grave or serious kind, much easier to pass over than to dwell upon ungraciously; and that its merits entitle it to full recognition by ornithologists, while they commend it very highly to the student and amateur. The mechanical execution of the volume sustains the high reputation the Salem press deserves for good work.—E. C.

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### General Notes.

WESTERN RANGE OF *CONURUS CAROLINENSIS*.—Mr. E. L. Berthoud, of Golden, Col., writes under date of December 2, 1876: "I saw the Carolina Parrot, at this place (lat.  $39^{\circ} 45'$ ; long.  $105^{\circ} 8'$ ) and at Denver, on the S. Platte, in 1860-61, and on the Little Thompson River, Col., in 1862. It was abundant in Kansas in 1865-67, since which year I have seen but few, on Smoky Hill and Republican Forks. I have also seen it near old Fort Lyon, on the Arkansas River." I am not aware that the species has hitherto been reported as occurring so far west as Colorado.—ELLIOTT COUES, *Washington, D. C.*

FECUNDITY OF THE CAROLINA WREN (*Thryothorus ludovicianus*).—About April 25 I found "our pair of Wrens" very busy, the male being followed by five nearly full-fledged young, and the female actively engaged in constructing (under the rafters of our stable) another nest, in which she soon deposited five beautiful eggs, and commenced sitting, cheered by the loud and happy notes of the male, who had by this time got rid of his noisy brood. In due time five more young Wrens made their appearance, and never did birds work harder than did their parents to supply their insatiable appetites. Spiders, bugs, and larvæ of every description, were brought in quick succession, and, as a consequence, a rapid growth was the result, and the brood was out by the fore part of July, following the male and "quivering" their wings in supplication for food. The female immediately set herself at work on another nest, this time under the eaves of a porch. Large quantities of dry leaves and coarse grass and weeds were carried up, and a compact oval structure was made, with a round cavity in the top, partly roofed over. On the 19th of July I found five eggs in the nest, and the female again sitting. Are three broods in a season commonly reared by this species?—CHARLES DURY, *Avondale, Hamilton County, Ohio.*

THE LOUISIANA HERON IN INDIANA.—My friend Mr. F. T. Jencks, of Providence, R. I., writes me that on the 26th of June, 1876, while passing through a large marsh between Plymouth and Hanna, on the line of the Pittsburg and Fort Wayne Railroad, in Northern Indiana, he saw a fine adult specimen of *Demigretta ludoviciana* spring up close beside the railroad-track and fly off in full view. As Mr. Jencks is well acquainted with the species in question, I have no doubt of the correctness of his identification.—E. W. NELSON, *Chicago, Ill.*

NOTE ON THE CINNAMON TEAL (*Querquedula cyanoptera*).—A small lake, which feeds one of the headwaters of the North Platte, in North Park, Colorado, was found to be a breeding-place of large numbers of wild Geese (*Branta canadensis*) and other water-fowl, among which Wigeons (*Mareca americana*), Shovellers (*Spatula clypeata*), and the species the name of which heads this paragraph, were the most numerous. I was on the spot too late in the season to take eggs, but newly-fledged birds of each of the three species of Ducks mentioned, as well as old birds in moult, were secured or observed. The Cinnamon Teal here seemed to replace the common Blue-winged, none of which were ascertained to occur. The spot was on the Atlantic side of the main water-shed, though practically on the divide, as it was only a day's march from the edge of Middle Park, the waters of which area flow into the Colorado of the West and so into the Gulf of California. The Teal associated as usual with various other kinds of Ducks, and no peculiarity of habits was noted. Two young birds were captured alive, in a natural excavation of an embankment, in which they had apparently crawled to hide, as the hole showed no traces of a nest.—ELLIOTT COUES, *Washington, D. C.*

ÆGIOTHUS EXILIPES IN EUROPE.—It may be interesting to the readers of the Bulletin to learn that one of the two Redpoles procured upon the Petchora River in Northeastern Russia, in 1875, by Mr. Henry Seebohm and myself, and on a former occasion, at Archangel, by Mr. E. R. Alston and myself, has turned out to be identical with *Ægiotus exilipes*, Coues. We are thus able to extend the distribution of that species in' o European Russia as far as Archangel (40° E. longitude from Greenwich). This species was also procured by M. Severtzoff, in Turkestan. In our papers in the "Ibis," January, 1873, p. 64, and "Ibis," January, 1876, we have erroneously named this bird *Æ. rufescens*, which name is only applicable to the form found in Great Britain, and migrating southward in winter. The other species found in North Russia is true *Linota linaria*, Linn. *Ægiotus exilipes*, Coues, will thus probably be found to be almost circumpolar in its distribution, as it is reasonable to suppose that it is the common species occurring throughout Northern Siberia in summer. References to notices of this species in Europe will be found in the "Ibis" as above quoted, in the "Zoölogist" for January, 1877, and in an Appendix Mr. Seebohm and myself are preparing to our "Notes of the Birds of the

Lower Petchora" ; and it will be doubtless still more fully treated of in a forthcoming part of Mr. H. E. Dresser's "Birds of Europe." — J. A. HARVIE BROWN, *Cor. Mem., Dunipace House, Larbert, Scotland.*

A NOTE ON CUPIDONIA CUPIDO VAR. PALLIDICINCTUS, RIDGWAY. — In the latter part of January, 1877, I found in Fulton Market about thirty specimens of this form ; they were generally unfit for preserving, but I got two in good condition. On examination they agreed accurately with Mr. Ridgway's description (N. Am. Birds, Vol. III, p. 446). I ascertained that they came from Pierce City, Southwestern Missouri. I have been unable to make much inquiry for others since. I lately learned from a large dealer that they had been quite abundant in market, all coming from Southern Missouri. The marketmen objected to buying them on account of their small size. I found their average weight to be one and three-fourths pounds, some weighing but one and a half pounds. All I talked with said they had not noticed them before this winter. — GEORGE N. LAWRENCE, *New York.*

CAPTURE OF THE EGYPTIAN GOOSE ON LONG ISLAND. — On the 3d of January, 1877, I received a remarkably fine specimen of a species of Goose entirely unknown to me. The bird was killed in a pond of fresh water near Carnarsie, Long Island, and has every appearance of being a wild bird. The plumage is in fine condition, and the feet are free from warts. On exhibiting it to our well-known ornithologist, Mr. G. N. Lawrence of New York, he expressed great surprise, and promised to investigate the matter. I have since received from him the following communication : —

"The Goose shown me yesterday is the Egyptian Goose (*Chenalopex aegyptiacus*, Linn.). It inhabits all of Africa, and numerous specimens have been killed in Great Britain. Its acquisition is worthy of being noted, and whether a straggler or an escaped specimen may be ascertained in the future."

The specimen will be placed in the Museum of the Long Island Historical Society of Brooklyn. — JOHN AKHURST, *Brooklyn, N. Y.*

MACCOWN'S LONGSPUR IN ILLINOIS. — While looking over a box of Snow-Buntings and Shore Larks in the market, January 15, 1877, I found a specimen of *Plectrophanes maccowni*, shot at Champaign, Illinois. January 17, another box containing Lapland Longspurs was sent from the same place, and among them was a second specimen of *P. maccowni*, which is now in the collection of C. N. Holden, Jr., Chicago. January 19 I obtained a third specimen from the same source, which has been sent to Mr. E. W. Nelson, of this city. They were all males, showing plainly the chestnut coloring on the bend of the wing and the peculiar white markings of the tail. This is, I think, the first record of the occurrence of this bird in Illinois, if not east of Kansas. — HENRY K. COALE, *Chicago, Illinois.*

# BULLETIN

OF THE

## NUTTALL ORNITHOLOGICAL CLUB.

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No. 3.

### DESCRIPTION OF A NEW SPECIES OF HUMMING-BIRD FROM CALIFORNIA.

BY H. W. HENSHAW.

#### *Selasphorus allenii*, NOBIS.

SP. CHAR.—*Adult Male*. Two outer tail-feathers very narrow, linear, the outer nearly acicular; second only slightly larger; third abruptly larger. Upper parts bright golden-green, dullest on the crown. Under tail-coverts, sides, and belly rufous, paler along the median line. Jugulum white. Wings purplish-dusky. Tail-feathers cinnamon, tipped and edged with purplish-brown. Throat and ruff bright coppery-red, with brassy-green reflections. *Female* similar to the female of *S. rufus*, but smaller; tail-feathers narrower, especially the outer.

*Habitat*. Coast district of California; northward?

#### DIFFERENTIAL DIAGNOSES.

*S. rufus*.—*Male*. Tail-feathers successively graduated in size, the outer the smallest; fourth from the outer *abruptly attenuated, and with a deep notch at the base of attenuation on the inner web*. Crown (only) metallic-green. Upper parts clear cinnamon, sometimes with flakes and patches of metallic-green on the back.

*S. allenii*.—*Male*. Smaller. Two outer tail-feathers very narrow, linear, the outer nearly acicular;



\* These figures were kindly drawn by Mr. Ridgway, and afford a very exact idea of the differences in the form of the tails of the two birds.

third abruptly larger; the fourth intermediate in length between the third and fifth. Entire upper parts to the tail golden-green.

SOME time since my attention was attracted by a specimen of the above-described bird, in the collection of Mr. William Brewster, which had been received from Mr. C. A. Allen, of Nicasio, California, the locality where it was taken. Experience in the interior, especially in Arizona, had afforded opportunity for the examination of hundreds of the *Selasphorus rufus*, and this specimen, an adult male, differed so decidedly from any I had ever seen that I was led to the belief that there might be on the west coast a variety peculiar to that region. The examination of specimens, however, showing what I considered intermediate phases of coloration from this same locality, led me to conclude that the form was not sufficiently distinct to receive a name, an impression which I now think was wholly erroneous. The reception of new material and a reconsideration of the question has convinced me that the form in question is quite distinct specifically from *S. rufus*, from which it is separable by perfectly good and stable characters of external structure. As might be expected in a family where the females of totally different genera are often distinguishable only with difficulty, it is in the males that the differences are chiefly to be noted. The narrow outer tail-feathers are in the case of *S. alleni* sufficiently peculiar, however, to enable one to distinguish the females and even the young birds.

The adult males are at once separable, not only by the bright green back, the green extending partially over the upper tail-coverts and contrasting sharply with the rufous of the tail, but even more readily by the very peculiar characters of the tail, as above indicated. These are perfectly constant in all the specimens I have seen, and have proved to be so also in all of the many individuals which have passed under Mr. Allen's notice.

In reference to the coloration of the *S. alleni*, I can state that the amount of variation in the adult males is very small. The back is always of a pure metallic green. Mr. Allen, whose authority is unquestionable, and who has had ample opportunity for ascertaining, writes me that the variation is extremely slight, and that a series of thirty males then before him showed no differences. On the other hand, I can assert with equal positiveness that the *S. rufus* never assumes this complete green phase of coloration. Of specimens

from the interior, I have seen at least two hundred adult males, and they all possessed the bright rufous back, only an occasional individual showing a faint trace of the green. In California, however, where the *S. rufus* occurs in its typical condition, that is, with an unmixed rufous back, specimens are not uncommonly found which exhibit a strong approach to the coloration of *S. alleni*. In these the rufous is seen to be mixed with green in varying proportions. Beyond a certain point they appear never to pass, and all such specimens have the peculiar tail characters of *S. rufus* as strongly marked as in the most typical examples of the species. We find the same difference between specimens of *S. rufus* taken in California and on the west coast generally, and those from the interior, that usually obtains in species possessed of a similar range, — that is, the coloration is appreciably darker. The locality of specimens, whether from the coast or the interior, may by this means be readily told.

In Mexico only the *S. rufus* appears to occur, and Mr. A. Boucard informed Mr. Ridgway that, having examined hundreds of the *Selasphorus* from there, he had never seen an example of the Green-backed form, which, however, he was familiar with from California. One of the strongest proofs of the specific distinctness of the two is seen in the fact that the two birds, in their typical condition, occur at the *same locality* and at the *same season*. Both breed about Nicasio (situated about twenty-five miles north of San Francisco), though Mr. Allen finds the *S. alleni* very much more abundant than the other. Thus, during the present season (1877), he has shot about forty-five of the former bird, and has only succeeded in taking four of the rufous-backed species. Last year's experience was a similar one.

This gentleman, whose investigation of these two birds has extended over several years, and who, it is but proper to state, has always believed them to be distinct, has found a constant difference in size, the *S. alleni* being the smaller. Such I find to be the case in the several specimens I have measured, and the discrepancy between them is quite considerable when the diminutive size of the birds of this family is taken into account.

*Habits.* I am in possession of but few notes bearing upon the habits of this Hummer. Mr. Allen remarks incidentally in a letter that the Green-backs are much the livelier and more active of the two, keeping constantly in the open, and always perching upon the most prominent dead twigs they can find. Their extreme shyness,

as contrasted with the unsuspicious nature of the Rufous-backed, is quite remarkable. They seem to possess a larger share than usual of the courage and pugnacity which is so constantly displayed in birds of this family. Not only do they always come off the victors when chance encounters take place between them and the Rufous-backs, but Mr. Allen has seen a pair attack and put to rout a Red-tailed Hawk; while, as he remarks, "Sparrow-Hawks have no chance at all with them." He has often seen the little fellows in hot chase after these latter birds, and their only care seemed to be to get out of the way as soon as possible of foes so determined.

The Rufous-backed Hummer, on the contrary, frequents the thickets, and is always unsuspicious and readily approached. The different localities they affect may indicate a difference in the flowers from which they obtain their food.

*Habitat.* The habitat of *Selasphorus alleni* seems to be confined to the coast district of California, though subsequent investigation may show that it extends its range to the northward. It appears to be strictly limited to the western slope of the Sierras, and may indeed wander but a short distance from the coast. It is thus very local, while the *S. rufus* has a very widely extended habitat. Few species, indeed, of the family range over as many degrees of latitude as this, which appears equally at home in the valleys and elevated table-lands of sub-tropical Mexico and in the less inviting regions of Southern Alaska, while it occupies in summer most of the intermediate ground. Specimens are in the Smithsonian collection from Sitka, which forms its most northern recorded locality. In the interior it appears to be of less general occurrence than in the region west of the Sierras, though this apparent absence is doubtless due in part to our lack of knowledge of the Avifauna, especially of the northern interior. The eastern slope of the Sierras is apparently occupied by it throughout their whole length. Mr. Ridgway found it in autumn in the East Humboldt Mountains, and Dr. Coues in Montana, and it may be said to occur over most of the Rocky Mountain region, either as a summer resident or as a fall migrant. Dr. Coues is the only one who has found it breeding in the interior, but I think it probable that not only the mountains about Fort Whipple, which formed his field of observations, but the mountain-fastnesses throughout the Territory of Arizona, and also in New Mexico, and perhaps in Southern Colorado, may furnish the species a summer home. Certain is it that in August this Hum-

ming-Bird is found almost simultaneously over all the more inviting parts of this lower country, and in certain sections where flowers abound, as in the mountains of Eastern Arizona, their numbers far exceed all other species put together.

Though apparently so hardy, and though pushing its migrations in spring in search of its summer home to a point attained by no other species of its family, it yet in winter retires far south, and appears to find the climate, even of California, too rigorous for its endurance. Possibly, however, the winter flora is not suited to its habits, and this may govern its choice of a winter residence, rather than inability to live in a climate which appears well adapted to its less fastidious rival, the Anna Humming-Bird (*Calypte annae*). However this may be, it is certain that the great proportion, perhaps all, of the two species of *Selasphorus* leave our territory entirely in fall, and if any remain they are but a very limited number, which take refuge in the warm interior valleys of California.

Below is appended a table of measurements of the two species. The specimens of *S. rufa* are purposely selected from different localities, and the measurements give a good idea of the amount of variation:—

Sex.	Date.	Locality.	Collector.	Wing.	Tail.	Bill.
<i>S. rufus</i> , ♂ ad.	March 29, 1877	Nicasio, Cal.	C. A. Allen	1.59	1.28	.61
" " ♂ ad.	March 29, 1877	" "	" "	1.62	1.28	.63
" " ♂ ad.	— 1876	San Francisco, Cal.	F. Gruber	1.67	1.28	.65
" " ♂ ad.	— 1876	" "	" "	1.60	1.27	.65
" " ♂ ad.	May 29, 1866	Columbia River,	J. K. Townsend	1.62	1.28	.68
" " ♂ ad.	— 1866	Mirador, E. Mex.	Dr. Sartorius	1.62	1.27	.66
" " ♂ ad.	April 21, 1861	Steilacoom, W. T.	Dr. Suckley	1.57	1.27	.63
" " ♂ ad.	August 25, 1873	Apache, Ariz.	H. W. Henshaw	1.58	1.22	.63
" " ♂ ad.	July 24, 1873	El Moro, N. Mex.	" "	1.75	1.22	.72
" " ♂ ad.	August 12, 1874	Ft. Garland, Col.	C. E. Aiken	1.77	1.26	.68
" " ♂ ad.	August 17, 1875	Tejon Mts., Cal.	H. W. Henshaw	1.66	1.17	.68
" " ♀ juv.	August 18, 1875	" "	" "	1.73	1.21	.67
<i>S. allenii</i> , ♂ ad.	March 24, 1875	Nicasio, Cal.	C. A. Allen	1.47	1.21	.64
" " ♂ ad.	March 31, 1877	" "	" "	1.48	1.17	.63
" " ♂ ad.	March 31, 1877	" "	" "	1.60	1.17	.67
" " ♂ ad.	March 31, 1877	San Francisco, Cal.	" "	1.62	1.17	.68
" " ♂ ad.	May 18, 1876	Nicasio, Cal.	" "	1.68	1.15	.68
" " ♂ ad.	March 17, 1877	" "	" "	1.61	1.16	.67
<i>S. rufus</i> , Average of eight males	...	...	...	1.68	1.29	.64
" " " four females	...	...	...	1.72	1.21	.68
<i>S. allenii</i> , " " four males	...	...	...	1.49	1.18	.64
" " " two females	...	...	...	1.62	1.15	.67

The number given of *S. allenii* is less than would have been desirable, and I regret that I have not at hand the large number of

measurements taken by Mr. Allen. As he informs me, however, that the variation in this respect is very small, it is probable the average would be little changed by their addition.

In bestowing the specific name, I have paid but a deserved compliment to the zeal and enthusiasm of Mr. C. A. Allen, but for whose efforts in obtaining the specimens necessary for comparison, and careful field-notes, the species might have remained for a long time still unrecognized.

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### THE BIRDS OF GUADALUPE ISLAND, DISCUSSED WITH REFERENCE TO THE PRESENT GENESIS OF SPECIES.

BY ROBERT RIDGWAY.

THE importance of insular faunæ in their bearing on the subject of the derivation of species, has been recognized by eminent writers; and certain islands, remote from the mainland, among which may be mentioned the Galapagos, have received marked attention. An excellent memoir upon the birds of the latter group has lately been published by Mr. Osbert Salvin,\* who discusses the relationship of certain peculiar forms to their continental allies, and even goes so far as to point out among the latter the present representatives of the parent stocks from which the genera now peculiar to the Galapagos have been derived. That Mr. Salvin is probably correct in his conclusions, is very strongly indicated by certain facts developed from a study of the fauna of Guadalupe, where in the case of almost every species, precisely the same local modifications are observable; the process of change in the latter case, however, has been either more recent or more gradual, since close affinity to continental representatives is clearly seen in every species, the extreme differentiation met with in the Galapagos types not having yet been reached.†

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\* On the Avifauna of the Galapagos Archipelago. By Osbert Salvin, M. A., F. R. S., etc. Transactions of the Zoölogical Society of London, Vol. IX, Part IX, pp. 447-510, pls. lxxxiv-lxxxix. May, 1876.

† These modifications seem to be, (1) enlargement, or elongation, of the bill and feet, (2) abbreviation of the wings and tail, and (3) darkening of the colors

The island of Guadalupe is situated off the coast of Lower California, between latitude  $28^{\circ} 45'$  and  $29^{\circ} 10'$  north, and about two hundred and twenty miles southwest from San Diego. Until very recently nothing was known regarding the ornithology of this island, but in the spring of 1875 a collection of birds was made by Dr. Edward Palmer, and forwarded to the National Museum at Washington. This collection, embracing eight species and seventy-two specimens of land-birds, was placed in the hands of the writer for identification, and reported upon in the Bulletin of the U. S. Geological and Geographical Survey of the Territories, Vol. II, No. 2, April 1, 1876 (pp. 183-195).\*

As above stated, the land-birds contained in the collection from Guadalupe embrace only eight species, so that the fauna of the island is by no means fully represented; indeed, the collector observed a Humming-Bird, two kinds of Owls, and a Hawk, of which no specimens were obtained. This is to be regretted, since most, if not all, of these would doubtless have proved new. It is altogether likely, too, that other species escaped notice, and thus remain to be discovered; a rich field is therefore left to the future explorer. The affinities of the birds of Guadalupe are, so far as known, almost entirely with those of Western North America, there being no peculiar types, each species having a more or less closely related representative on the continent. The species thus far known are the following, their continental representatives being given opposite:—

*Guadalupe Species.*

*Mainland Representatives.*

*Sylviidae.*

1. *Regulus obscurus.* *Regulus calendula.*

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of the plumage. The following remarks by Mr. Salvin are those which refer more particularly to these peculiarities:—

"In the formation of its bill, it [*Geospiza*] hardly differs at all from some species of *Guiraca*, as *G. concreta* and its allies. The legs and feet, however, are much longer and stronger than in any species of *Guiraca*; and the tail in proportion to the wings is very short" (l. c., p. 478).

"From *Conirostrum* [the continental representative genus] *Certhidea* [of the Galapagos] differs in having much shorter wings and tail" (l. c., p. 476). [*Italics our own.*]

\* Ornithology of Guadeloupe [*lego Guadalupe*] Island. Based on Notes and Collections made by Dr. Edward Palmer.

## Trogloodytidae.

2. *Thryomanes brevicauda.* *Thryomanes bewicki.*  
 3. *Salpinctes guadalupensis.* *Salpinctes obsoletus.*

## Fringillidae.

4. *Carpodacus amplus.* *Carpodacus frontalis.*  
 5. *Junco insularis.* *Junco annectens.*  
 6. *Pipilo consobrinus.* *Pipilo maculatus.*

## Picidae.

7. *Colaptes rufipileus.* *Colaptes mexicanus.*

## Falconidae.

8. *Polyborus lutosus.* *Polyborus tharos.\**

The more prominent characteristics of these Guadalupe birds, as compared with the mainland forms, are (1) increased size of the bill and feet, (2) shorter wings and tail, and (3) darker colors; these variations are by no means uniform, however, in the several species, the differentiation being in some slight, while in others it amounts to almost generic distinctness; but, what is very remarkable, and of great interest in connection with the subject in hand is, that no matter how great may be the modification of form and proportions, *the specific characters, so far as coloration is concerned, are in every case strictly preserved!* † Thus, *Carpodacus amplus* has the wing and tail barely longer than *C. frontalis*, but the bill is three times as large, and the feet twice as stout, *while the colors and markings are substantially identical*; *Junco insularis* has precisely the same plumage as *J. annectens* (except that the shades of color are just perceptibly darker), but the bill is so elongated, and the wings and tail so much abbreviated, that in form it is much more like the species of *Ammodromus* than those of typical *Junco*! *Thryomanes brevicauda* does not differ more than just appreciably in colors and marking from *T. bewicki*, but the difference in form is so great as to render it necessary either to institute a new genus, or, as the only alternative, to draw up a generic diagnosis entirely

\* Singularly enough, the *Polyborus* from Guadalupe resembles much more closely the South American species than that from Mexico (*P. cheriway*), though it is very distinct from either.

The only water-bird collected on the island was a specimen of *Colymbus pacificus*, in perfect breeding plumage, *found dead on the shore*.

† With the sole exception of *Polyborus lutosus*.

different from that heretofore considered to embrace the most important characters. In the case of *Carpodacus*, there has been reached in the Guadalupe race almost, if not quite, that degree of differentiation which distinguishes the Galapagoan genus *Geospiza* from continental *Guiraca*, the modifications being moreover of precisely the same character. *Junco insularis* may likewise be compared with the species of *Cactornis*, in which the bill has become so extremely produced as to have almost lost its fringilline character.

The three species above-mentioned exhibit the local modifications to the greatest extent, but the rule may be traced through the whole series; and to show the exact extent of these modifications of form we present the following table of measurements of each of the Guadalupe species compared with those of the mainland representative form, the measurements representing the *maximum* and *minimum* of a large series of each:—

SPECIES.	MAXIMUM.					MINIMUM.				
	Wing.	Tail.	Bill from Nostril.	Tarsus.	Middle Toe.	Wing.	Tail.	Bill from Nostril.	Tarsus.	Middle Toe.
<i>Regulus obscurus</i> *	2.20	1.95	.25	.80	.40	2.00	1.70	.22	.80	.38
“ <i>calendula</i>	2.45	2.08	.28	.76	.38	2.20	1.60	.20	.68	.36
<i>Thryomanes brevicauda</i>	1.90	1.80	.50	.75	.50	1.86	1.80	.45	.70	.50
“ <i>bewicki</i>	2.38	2.70	.45	.80	.50	2.00	2.00	.38	.68	.45
<i>Salpinctes guadalupeensis</i>	2.75	2.30	.60	.90	.58	2.50	2.00	.55	.90	.50
“ <i>obsoletus</i>	3.00	2.42	.50	.90	.58	2.65	2.20	.50	.73	.55
<i>Carpodacus amplus</i>	3.35	2.90	.45	.85	.65	3.10	2.60	.40	.75	.58
“ <i>frontalis</i>	3.20	2.90	.35	.70	.50	2.85	2.40	.30	.62	.50
<i>Junco insularis</i>	2.88	2.60	.88	.86	.60	2.50	2.30	.36	.80	.55
“ <i>annectens</i>	3.48	3.40	.80	.80	.60	3.00	2.80	.28	.80	.55
<i>Pipilo consobrinus</i>	3.28	2.80	.40	1.08	.75	2.90	3.25	.36	1.00	.60
“ <i>megalonyx</i>	3.60	4.60	.40	1.05	.75	3.80	4.00	.36	1.06	.70
<i>Colaptes rufipectus</i>	6.25	5.80	1.60	1.10	.92	5.90	4.75	1.35	...	...
“ <i>mexicanus</i>	7.00	6.00	1.25	1.20	.85	6.65	5.50	1.15	...	...
<i>Polyborus tutus</i>	16.40	11.65	1.35	8.75	2.10	15.00	10.50	1.25	8.50	1.80
“ <i>cheriway</i>	16.50	10.00	1.48	8.75	2.10	14.80	9.00	1.20	8.20	1.90

\* The Guadalupe species are in Italics.

A close perusal of the above figures leads to the discovery of some exceptions to the rule of variation in proportions. Thus, *Regulus obscurus*, while conforming in other respects, does not have the tail constantly shorter than *R. calendula*, although it averages shorter. There is also no appreciable difference in the absolute length of the tarsus in the two forms of *Thryomanes* and *Salpinctes*, though the comparative difference in favor of *T. brevicauda* and *S. obsoletus*, when contrasted with the length of the wings and tail, is very marked.

These exceptions we are unable to explain, but even unaccounted for they do not detract from the high importance of the variations we have noted. It will also be observed that there is no essential difference in dimensions or proportions between *Polyborus lutosus* and *P. cheriway*, the modifications being almost entirely in the plumage, which in the former species is so distinct, at all ages, from that of the other in corresponding stages that it may be regarded as one of the most completely differentiated birds of the whole series.

Not only in proportions, but also in colors, do the modifications presented by these Guadalupe birds correlate with characteristics of the Galapagoan forms. A conspicuous character of the latter is their sombre plumage of black or fuliginous-brown; now, excepting only *Polyborus lutosus*, precisely the difference in plumage of the Guadalupe birds from their Continental allies consists in their *darker colors*. *Carpodacus amplus*, although a bird of at least double the bulk of *C. frontalis*, is so nearly identical in plumage that positively the only difference consists in the slightly darker shade of all the colors; *Junco insularis* is darker than *J. aeneocauda*; but is otherwise similar in plumage; *Regulus obscurus* is much darker than *R. calendula*; *Thryomanes brevicauda* and *Salpinctes guadaluensis* are likewise darker in colors than *T. bewickii* and *S. obsoletus*, while *Colaptes rufipileus* differs from *C. mexicanus* in having one half more black on the under side of the tail, besides being darker generally. In *Pipilo concolorinus*, however, the black portions of the plumage are hardly so intense black as in the mainland forms of *P. maculatus*, *but the female is almost if not quite as black as the male*,\* while in the others she is more or less conspicuously different, being some shade of brown or gray instead of black. As remarked before, the only real exception to the rule is *Polyborus lutosus*, but this has a quite different distribution of colors from the two Continental species; it may be observed, however, that while the black markings are replaced by dark brown, the lighter markings are pale clay-color instead of white; and further, that there is far less difference between the young and adult stages.

Not the least interesting fact concerning these Guadalupe birds

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\* The similarity of the sexes in birds having a black plumage is remarkably prevalent among the West India birds, as Professor Baird has somewhere noted.

is their anomalous geographical relation to their mainland representatives, the latter being the Rocky Mountain or Middle Province races *instead of those from the intervening coast districts!* Thus, *Carpodacus amplus* agrees with *C. frontalis* in the restriction of the red in the male to sharply defined and limited areas, the coast form, *C. frontalis rhodocolpus*, having the red "spread," as it were, over the greater portion of the plumage; *Junco insularis* is a perfect repetition of *J. annulens* so far as plumage is concerned (except that the shades of color are somewhat darker), and does not at all resemble *J. oregonus* of the coast. *Thryomanes brevicauda* is colored more like *T. bewicki leucogaster* (the Upper Rio Grande form) than *T. bewicki spilurus* (the coast form); while *Salpinctes guadalupensis* differs in the same way from *S. obsoletus*, which, moreover, *is not represented at all in the coast district*, except perhaps rarely and locally in Southern and Lower California.

The peninsula above mentioned also presents in many respects closer affinities to the middle region than to the coast district, especially in the fauna found at Cape Saint Lucas; but on the western side many of the true Californian forms replace those of the Middle Province, *Carpodacus rhodocolpus* being a case in point, this species thus entering as a separating wedge between *C. frontalis* and *C. amplus!* Now very similar anomalous cases occur among Galapagos birds, an entirely parallel instance being afforded by *Dendræca aureola*, of which Mr. Salvin (l. c., p. 474) remarks: "The bird from the Galapagos [meaning the above-named form] is the same as that from Jamaica,\* whereas on the intervening continent two other (so-called) species occur — namely, *D. aestiva* as a winter migrant, and *D. vicilloti* as a resident — but never, as far as we know, *D. petechia*." Another quite similar case is afforded by *Myiarchus magnirostris* of the Galapagos, since Mr. Salvin says that "its nearest allies are perhaps the island races of the Antilles rather than those of the continent; and in this respect the affinities of *Dendræca aureola* are, to some extent, repeated; but in the present case the specific characters of *M. magnirostris* are well defined" (l. c., p. 492).

In the paper above referred to, are incorporated notes by the collector, Dr. Habel, on the habits of the species; and in these refer-

\* We do not agree with Mr. Salvin in considering the forms of this species from the West Indies and the Galapagos *absolutely identical*, but recognize in them well-marked races, differing from each other about as much as the Guadalupe birds do from those of the mainland.

ence is made to the exceeding tameness of certain Galapagos birds. A similar confidence in man was likewise found to be a characteristic of some of the Guadalupe species, as an instance of which we quote the following from Dr. Palmer's notes regarding *Junco insularis* [see page 189 of our paper, cited at the head of this article]: "These are the most abundant birds of the island, and are so tame that they may be killed with a stick or captured in a butterfly-net. While I was looking for insects under stones and logs, these birds would sometimes join in the search, and hop almost into my hands. They gathered chiefly ants and their eggs. At times they even enter the houses, picking up anything edible they can find. Numbers boarded the schooner as we neared the island, and made themselves perfectly at home, roaming over every part of the vessel in search of food." It seems, however, that not all the birds of the island were thus unsuspicious and familiar, since Dr. Palmer remarks that it is difficult to secure *Thryomanes brevicauda*, on account of its shyness.

In conclusion, a few words regarding the derivation of these insular forms may not be out of place. As to those of the Galapagos, Mr. Salvin expresses the following opinion: "Considering their purely volcanic nature, it cannot reasonably be doubted that these islands have always been islands since they emerged from the sea. Such is Mr. Darwin's view; and it is fully indorsed by Dr. Hooker and others. The birds that are now found, being related to American birds, must have emigrated thence and become modified by the different circumstances with which they became surrounded. The oldest immigrants seem to be indicated by their generic difference from their continental allies, the more modern comers by their merely specific distinctness, and the most recent by their identity with birds now found on the adjoining continent. On this view the islands were first taken possession of by individuals of the parent stock of *Certhidea* and *Conirostrum*, *Geospiza* and *Guiraca*, *Camarhynchus* and *Neorhynchus*. Then came perhaps the ancestors of *Buteo* [galapagensis]\*; after these followed *Mimus*, *Pyrocephalus*, and *Myiarchus*, *Strix* and *Asio*, *Zenæda*, *Larus* and *Spheniscus*. Then those of *Dendroæca*, *Progne*, *Butorides*, *Nycticorax*, and *Porzana*, and, finally, *Dolichonyx oryzivorus*, *Ardea herodias*, and the Ducks, Flamingo, Gannets, Plovers, and Sandpipers, though of these last a constant stream

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\* The nearest ally of the Galapagoan *Buteo* is *B. poliocephalus* of the Patagonian region.

of immigrants may have been maintained from the earliest times. It must be remembered, however, that no precise order of immigration can be laid down, even approximately; for one term in the proposition is an absolutely unknown quantity. We know nothing of the rate of change that has taken place in any one species. Outward circumstances may have acted on one species, so as to leave it little changed in a given time, whilst in the same time another species may have assumed distinctive generic characters. Viewing the very peculiar physical characters of these islands when contrasted with the neighboring American shores, it would seem reasonable that the rate of change demanded of an immigrant species would be high; consequently the origin of the islands need not be dated back to a more distant period than seems indicated by their volcanic origin."

Considered in connection with the subject discussed above, the birds of Guadalupe are of extreme interest, since they apparently represent a transition stage through which those of the Galapagos once undoubtedly passed. Nothing, unfortunately, is known to the writer as to the geological structure of Guadalupe; the character of the modifications presented in its birds, however, point strongly to its volcanic origin, and render it extremely probable that the upheaval took place at a more recent date than that of the Galapagos. The earliest immigrants to this island were probably the ancestors of *Polyborus lutosus*, which has become completely differentiated in plumage but not perceptibly altered in the details of structure,\* and those of *Carpodacus amplus*, whose modifications of external struc-

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\* The case of this species presents a very curious problem. Its origin from *P. cheriway*, the only species now inhabiting Middle America, and even northern South America, can scarcely be doubted; but the modifications which the Guadalupe species has undergone tend toward the distinguishing characters of the South American form (*P. tharus*). The two continental representatives of this genus have undoubtedly had a common origin, the differences between them coming under the scope of ordinary geographical laws of variation in this family, as at present understood. The differentiation of the Guadalupe form is of a most remarkable kind, however, being apparently a partial reversion to the features of the Southern form; but some of the characters which distinguish the latter from its Northern analogues are even greatly exaggerated in this Northern insular form! In this instance, then, the differentiation has been a kind of retrocession, with no change in details of structure, while in all the other forms of the island the differentiation has been of the opposite kind, affecting the proportions more than the colors.

ture have almost, if not quite, reached generic distinctness, while the colors have remained essentially unaltered. The same may be said of *Junco insularis*, *Thryomanes brevicauda*, and *Colaptes rufipileus*, while the remaining species, *Regulus obscurus*, *Salpinctes guadalupensis*, and *Pipilo consobrinus* are either more recent arrivals or species in which the process of change has been comparatively slow.

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#### AN UNDESCRIPTED HYBRID BETWEEN TWO NORTH AMERICAN GROUSE.

BY WILLIAM BREWSTER.

In the preparation of the following paper I have hesitated not a little as to the propriety of giving a *name* to the bird about to be described. That it is a hybrid between the Pinnated Grouse (*Cupidonia cupido*) and the Southern race of the Sharp-tailed Grouse (*Pediocetes phasianellus* var. *columbianus*) is unquestionable, and, further, I consider it almost equally certain that offspring resulting from such unnatural connections are of regular, perhaps even not uncommon, occurrence wherever the two just mentioned species are found together. Indeed, I am aware at the time of writing, of three other similar specimens in private cabinets, and I have heard of additional ones. Although I have examined but one besides my own, I understand that they are all in every way nearly identical, and the fact of their having been procured from different localities must go far towards proving that their occurrence is by no means exceptional or unique. Granting this to be a fact, it seems reasonable that so distinctly specialized a form should bear a distinguishing name, for though certainly the result of a *mésalliance*, and combining in itself characters peculiar to two different species, it is yet unlike either.

But I do not claim originality for a system that has been long established among European authorities. In respect to the name to be adopted I shall follow the practice of Mr. Robert Collett. This gentleman, in writing upon the "Rakkelhane," a hybrid between *Tetrao urogallus* and *T. tetrix*, says,\* it "is a *compound* and

\* Remarks on the Ornithology of Northern Norway by Robert Collett. From the *Forhandl. Vidensk. Selsk. Christiania*, 1872. (Page 50 of the reprint.)

not a simple species, and should, therefore, as such, have a compound and not a simple name." The propriety of this must, I think, impress every one, but in endeavoring to carry out his plan in the present instance I have experienced a serious difficulty.

In naming hybrid forms Mr. Collett makes use of the generic title of the *male* parent alone, the "compound" part being made up from the *specific* appellations of *both* parents. Thus he calls the offspring of the male Ptarmigan (*Lagopus albus*), paired with the female Black Grouse (*Tetrao tetrix*), *Lagopus tetrici-albus*, the numerous recorded facts at his disposal enabling him to decide upon the respective specific relation of both parents with almost absolute certainty. But in the present case the entire absence of any facts bearing upon this part of the problem reduces me to the somewhat dangerous limits of mere conjecture, or, what is little better, the relative preponderance of specific resemblance exhibited by the specimen before me. Not to weary the reader by a too exhaustive preliminary discussion of detail, I will restrict myself to the simple statement that after careful examination I believe the hybrid Grouse about to be described the offspring of a connection between *Cupidonia cupido*, *male*, and *Pediocetes phasianellus* var. *columbianus*, *female*, and I accordingly bestow upon it, provisionally, the compound name *Cupidonia cupidi-columbiana*.

**DISTINCTIVE CHARACTERS.** — Adult male, from a specimen in my collection, obtained in Iowa. Size and general proportions of *Pediocetes phasianellus* var *columbianus*. Tail of sixteen feathers exclusive of two central projecting ones. Tarsi feathered as in *Cupidonia*. Neck-tufts 1.50 inches long. Upper tail-coverts coextensive with the rectrices. Above similar to *Cupidonia cupido*; wing-coverts (but not the scapulars) white-spotted, as in *Pediocetes*. Breast and sides barred transversely, as in *C. cupido*; abdomen white, sparsely covered with obtuse V-shaped spots of brown. Head, neck, and throat-markings precisely as in *C. cupido*. Neck-tufts dark brown; the longer ones not so stiff as those of *C. cupido*, the shorter dull yellow. Tail generally similar in shape and color to that of *C. cupido*, but with a central pair of elongated feathers "with parallel edges and truncated ends," which project .52 of an inch beyond the next pair. These projecting feathers are tipped with light brown like the other rectrices; subterminally for the space of about an inch they are solidly black, — anteriorly, with ragged rusty-yellow bars. The outer webs of the outer pair of rectrices are irregularly white. The measurements, taken from the dried specimen, are as follows: Wing, 8.57; tail, 3.25, — two central feathers, .52 longer; bill, depth, .40, length from nostril, .50; tarsus, 2.03; middle toe, 2.75.

It will appear from the above description that this bird combines in nearly equal proportions the characters of *Pediocetes* and *Cupidonia*. In the general pattern of coloration of the plumage it most resembles *C. cupido*, but the abdomen is spotted like the breast of *Pediocetes*, and the wing-coverts are marked precisely as in that species. It has the neck-tufts of *Cupidonia* and the projecting tail-feathers of *Pediocetes*, both of these characters, however, slightly modified. A remarkable feature appears in the extension of the upper tail-coverts nearly to the tips of the rectrices.

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### Recent Literature.

NELSON'S "BIRDS OF NORTHEASTERN ILLINOIS."\*—Under the above title Mr. E. W. Nelson gives us the results of three years' investigation in Cook and Lake Counties in the northeastern corner of Illinois, "a belt about twenty-five miles wide, bordering Lake Michigan in Illinois," including the field considered. As he remarks, the locality seems to form "a kind of four-corners where the avian fauna of four regions intergrade"; hence we find a somewhat novel juxtaposition of species. On or near the lake occur many birds formerly considered as more or less exclusively maritime. Notably among those of this class found in summer are *Ammodromus caudacutus* and *Ægialitis melodus*; during the migrations, *Strepsilas interpres*, *Tringa maritima*, *T. canuta*, *Calidris arenaria*, and *Micropalama himantopus*; in winter, *Histrionicus torquatus*, *Harelda glacialis*, *Somateria mollissima*, *S. spectabilis*, *Larus glaucus*, and *L. leucopterus*. As might be expected, the species properly belonging to the Carolinian fauna which reach this point are, with a few exceptions, of either uncommon or rare occurrence, and they here seem to touch the extreme northern limit of their range in that longitude. But most interesting are the records of northern birds breeding so far south, especially Limicoline and Natatorial species. Thus Mr. Nelson has found nesting in greater or less abundance, *Tringa minutilla*, *Totanus melanoleucus*, *T. flavipes*, *T. solitarius*, *Mareca americana*, *Fulix affinis*, *F. collaris*, *Erismatura rubida*, *Mergus serrator*, and some others.

It is not, however, from the simple enumeration of species, that this list derives its chief value and interest, but from the unusually complete and satisfactory character of the biographical annotations, which embrace good descriptions of the habits of many birds previously but little known.

Thus Mr. Nelson describes the songs of *Turdus alicia* and *Oporornis*

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\* Birds of Northeastern Illinois. By E. W. Nelson. Bulletin of the Essex Institute, Vol. VIII, 1876, Nos. 9-12, pp. 90-155, April, 1877.

*agilis*, the eggs of *Totanus melanoleucus*, and tells us of Night Herons (*Nyctiardea grisea nivea*) breeding in the open marshes of Fox River, placing their nests among the wild rice. Emphatically there is no *lumber* about this paper. It gives, in clear, concise language, the results of extended, carefully and intelligently conducted observations in a region almost wholly unworked, and from its geographical situation and topographical character and surroundings, most rich in results. As an important and valuable faunal contribution to our knowledge of North American Ornithology, Mr. Nelson's list cannot fail to take first rank. — W. B.

**SALVIN ON THE PROCELLARIIDÆ.** — In the fourth part of the "Ornithological Miscellany," edited by Mr. G. D. Rowley, Professor Osbert Salvin has given the first of a valuable series of papers, in which he seeks to throw all possible light upon this very obscure family. This paper is in two parts. The first is devoted to an examination of the unpublished "Banks' drawings," and the manuscripts of Dr. Solander, so far as they relate to the Petrels. These drawings are sixteen in number, and are presumed to have been drawn by Sydney Parkinson, one of the artists in the employ of Sir Joseph Banks, in the "Endeavor," under Captain Cook. The manuscript notes of Dr. Solander are in the British Museum. As Bonaparte and Gray have introduced Dr. Solander's names into our ornithological nomenclature, even where unaccompanied by descriptions and unpublished, Mr. Salvin has done the world good service in testing the vitality of these names.

*Procellaria oceanica* of Solander stands as *Oceanites oceanicus* of Kuhl. It is better known as *Thalassidroma wilsoni*. *Procellaria equorea* of Solander, (= *P. marina* of Latham, and confounded by Kuhl with *P. fregata*, a distinct species, in which he was followed by Gray, and for a time by Coues), stands as *Pelagodroma marina*. *Procellaria fregata* of Solander stands as *Fregata grallaria*. *Procellaria turtur* (Sol.) = *Prion turtur*. *P. velox* (Sol.) "must continue doubtful." *P. gigantea* (Sol.) stands as *Ostifraga gigantea*. *P. fuliginosa* Mr. Salvin traces with some difficulty to *Majagaeus equinoctialis*, but without doubt. *P. sandaliata*, a "long-lost" species, now reappears in the *Œstrelata armingoniana* of Giglioli and Salvadori (*Ibis*, 1869), and to their name Mr. Salvin gives the preference, following the Golden Rule in questions of nomenclature.

*P. lugens* of Solander cannot be placed. Kuhl and Gray made it the same with *P. grisea* = *Œstrelata kidderi* Coues = *Œ. brevirostris* Lesson, — the latter being the proper name, and the same as *P. tristis* Forst. and *P. amaurosoma* Coues; but, according to Mr. Salvin, incorrectly. *P. lugens* must thus be left in abeyance. *Nectris fuliginosa* of Solander Mr. Salvin is convinced = *Puffinus griseus* Finsch. *Nectris munda* Solander may apply to *P. gavia* Forst. (= *P. opisthomelas* Coues), but this is regarded as doubtful. *Diomedea antarctica* (Sol.) is probably = *D. fuliginosa*, and *Diomedea profuga* possibly = *D. chlororhyncha*.

Mr. Salvin's second paper is a careful examination of the new species of Petrels obtained by Dr. H. H. Giglioli during the voyage of the Italian corvette "Magenta" round the world, and described in the "Ibis" in 1869. Mr. Salvin examined the type specimens, and accompanies his review with fine illustrations drawn by the well-known bird-painter, Keulemans. These species, according to Mr. Salvin, should all stand as good and novel species. Their names are as follows: *Æstrelata magenta*, *Æ. armingoniana*, *Æ. trinitatis*, *Æ. defilippiana*, and *Puffinus elegans*. — T. M. B.

CATALOGUE OF THE BIRDS OF THE ISLANDS OF MALTA AND GOZO.— The Boston Public Library has recently received a copy of Mr. Grant's catalogue of Birds found on the islands of Malta and Gozo. Naturally, a list of the birds occurring in these islands, situated midway between the northern coast of Africa and the southern shores of Europe, divides into three principal groups: migratory birds, properly European; visitants, from Africa; and resident species. Besides these, not always distinguishable, are purely accidental or chance callers. Among the most noticeable of this small group it is interesting to note such purely American species as *Tringoides macularius*, *Actiturus bartramius*, and *Larus atricilla*. *Tringites rufescens*, American, but not uncommon in Europe, has also been found there. We also notice the occurrence in these islands of birds that are somewhat cosmopolitan as well as North American, such as *Rissa tridactyla*, *Larus marinus*, *Plectrophanes nivalis*, *Tringa canutus*, *T. maritima*, *T. subarquata*, *T. maculata*, *Streptopelia interpres*, *Anous stolidus*, and several species of Ducks, common to both continents. — T. M. B.

RIDGWAY'S "STUDIES OF THE AMERICAN FALCONIDÆ."— During the last two years Mr. Robert Ridgway has given us, in a series of special papers, some of the results of his protracted investigation of the American Falconidæ. In June, 1875, appeared his "Outlines of a Natural Arrangement of the Falconidæ,"\* based on an extended examination of the osteology of the leading types of raptorial birds. In this paper he indorses most fully the classification of the Birds of Prey proposed in 1867 by Professor Huxley, which unites the Old-World Vultures (*Vulturidæ* of most authors) with the Falconidæ, separates the Secretary Bird as an independent family (*Serpentariidæ*), and makes the Vultures of the New World a family (*Carthartidæ*) distinct from the other Diurnal Birds of Prey. Mr. Ridgway recognizes among the Falconidæ only two subfamilies, — namely, *Falconinæ* and *Buteoninæ*, — thereby differing very widely from most previous writers, some of whose classifications he rather sharply criticises. The subfamily *Falconinæ* he arranges in four minor divisions or "groups," under the names *Falco*, *Polybori*, *Microsturæ*, and *Herpeto-*

\* Bull. U. S. Geol. and Geogr. Survey of the Terr., Vol. I, No. 4, pp. 225-231, pls. xi-xviii, June 10, 1875.

theres, and similarly divides the subfamily *Buteoninae* into three "groups," which he calls *Pandiones*, *Pernes*, and *Buteones*. While Mr. Ridgway endeavors to make use of all available characters as the basis of his divisions, his classification is based primarily upon the character of the coracoid apparatus, particularly as to whether the scapular process of the coracoid is produced forward so as to meet the clavicle, or is separated from it by a wide interval; and also upon the character of certain bones of the skull, especially the supra-maxillary, the nasal, and the superciliary process of the lachrymal, of which parts are given numerous outline illustrations. Whether Mr. Ridgway has quite hit the "natural arrangement" here aimed at, and whether he has not placed undue value upon the modifications of the scapular process of the coracoid, are matters respecting which there is evidently room for honest differences of opinion.

This paper, which closes with a synopsis and diagnoses of the genera and subgenera of the *Polybori*, is followed a few months later by his "Monograph of the *Polybori*."<sup>\*</sup> This is strictly an American group, of very peculiar appearance and habits. They are chiefly tropical in their distribution, inhabiting all parts of South America, where they most abound, and do not extend northward beyond sub-tropical limits, a single species only (the Caracara, *Polyborus cheriway*) reaching the southern border of the United States. About ten species only are recognized by Mr. Ridgway, which he refers to four genera, namely, *Polyborus*, *Phalcobenoides*, *Milvago*, and *Ibycter*. The more important generic characters are illustrated by outline figures, and the various phases of plumage of the species are quite fully described.

A little later, under the general title "Studies of the American *Falconidae*,"<sup>†</sup> Mr. Ridgway continued his account of the American *Falconidae*, describing in detail sixteen genera and some forty species, besides a number of varieties. Thirteen species are referred to the single genus *Nisus* (= *Accipiter* of many authors), while twelve other genera have each but a single species. A few only of the species described in this paper are North American. These are, "*Nisus*" *cooperi*, "*N.*" *fuscus*, *Onychotus gruberi*, *Antenor unicinctus* var. *harrisi*, and *Elanoides forficatus*, only three of which range very far into the United States.

Mr. Ridgway also, in the mean time, published a paper "On *Nisus cooperi* (Bon.) and *N. gundlachi* (Lawr.)",<sup>‡</sup> in which he maintains the entire specific distinctness of "*N.*" *gundlachi*, which had been previously by several authors, including Mr. Ridgway himself, referred to "*N.*" *cooperi*.

This paper is immediately followed by another, "On the Buteonine

\* Studies of the American *Falconidae*: Monograph of the *Polybori*. Bull. U. S. Geol. and Geogr. Survey of the Terr., Vol. I, No. 6, pp. 451-473, pls. xxii-xxvii, February 8, 1876.

† Bull. U. S. Geol. and Geogr. Survey of the Terr., Vol. II, No. 2, pp. 91-182, pls. xxxi, xxxii, April 1, 1876.

‡ Proc. Acad. Nat. Sci. Phila., 1875, pp. 78-88.

Subgenus *Craxirex* (Gould),\* a group represented most numerously in South America. Two species only (*Buteo swainsoni* and *B. pennsylvanicus*), of the six referred to this subgenus, range far into North America. This group is distinguished from the ordinary *Buteones* by having only three (instead of four) of the outer primaries emarginated on their inner webs. While agreeing in this feature, they vary considerably in respect to the relative length of the wing, the size and length of the tarsus, and in other details of structure; and it is perhaps an open question whether our author does not place too much importance upon what he regards as the distinctive feature of the group, namely, the number of emarginated primaries. The various phases of plumage presented by the different species is described in considerable detail, with very full citations of synonymy. The account of *Buteo swainsoni* is particularly full, nearly one half the paper (about fifteen pages) being devoted to this species alone. Among its prominent synomyms are *Buteo bairdii* of Hoy, *B. insignatus* and *B. oxypterus* of Cassin, and *B. fuliginosus* of Sclater.

A little later appeared his "Monograph of the Genus *Micrastur*,"† of which seven species are recognized, and of which are given detailed descriptions. The group is mainly restricted to Central and Northern South America, being pre-eminently tropical in distribution. While the species are said to present "no appreciable sexual variation," they exhibit "two well-marked growth-stages," the young birds generally greatly differing from the adult. In addition to this, several of the species are dimorphic, being subject to erythriism, analogous to the dimorphism met with in *Syrnium aluco* of Europe, in *Scops asio*, and in the several species of *Glaucidium*, among the Owls. Shortly after this appeared another paper on this genus, by Mr. Ridgway, entitled "Second Thoughts on the Genus *Micrastur*."‡ This is mainly a summary of his "Monograph." The "Second Thoughts" relate to his earlier revision of this genus, published in 1873, § — in which only five, instead of seven, species were admitted, — rather than to the "Monograph," to which there is in this paper no allusion.

During the elaboration of these important papers on the American *Falconidae*, Mr. Ridgway has had access to the material contained in all the larger public and private ornithological collections of the United States, and has been kindly favored with the use of specimens from abroad. He has in this way been able to base his investigations upon the examination of a larger amount of material than has, in most cases at least, fallen un-

\* Proc. Acad. Nat. Sci. Phila., 1875, pp. 89–119.

† Studies of the American *Falconidae*: Monograph of the Genus *Micrastur*. Proc. Acad. Nat. Sci. Phila., 1875, pp. 470–502, figs. 1–9.

‡ Ibis, January, 1876, pp. 1–5.

§ Revision of the Falconine Genera, *Micrastur*, *Geranospiza*, and *Rupornis*, and the Strigine Genus, *Glaucidium*. Proc. Bost. Soc. Nat. Hist., Vol. XVI, pp. 73–81, December, 1873.

der the inspection of any other investigator in the same field. In these papers we have the results of much hard and patient study, and while experts in the same field may differ from him in respect to minor points of classification and nomenclature, no one can question the fact of his having immensely advanced our knowledge of this large and difficult group. We trust that he will soon be able to give us further instalments of his work on this family, and that eventually we may have the whole reissued connectedly in a well-rounded monograph of the American *Falconida*. —

J. A. A.

**RECENT ORNITHOLOGICAL ARTICLES IN AMERICAN JOURNALS.\*** — Among the varied contents of the last and current volumes of the "American Naturalist," † we note the following original articles relating to birds. The number for January, 1876 (Vol. X) contains a note on the "Proper Specific Name of the Song Sparrow" (pp. 17, 18), by David Scott, who claims for this species the name *fasciata*, Gmelin, 1788, in place of *melodia*, Wilson, 1810, the probable tenability of which had been previously suggested by other writers. Also an article on the "Availability of Certain Bartramian Names in Ornithology" (pp. 21—29), by J. A. Allen; a note on the extinction of the Great Auk at the Funk Islands (p. 48), by the same; on the occurrence of Bewick's Wren in the Atlantic States, and the breeding of *Ibis ordi* at Camp Harney, Oregon (p. 48), by Dr. Elliott Coues; on the Early Nesting of the Anna Humming-Bird (pp. 48—50), by Dr. J. G. Cooper; and on the occurrence of the European Tree Sparrow (*Pyrgila montana*) at St. Louis, Mo. (pp. 50, 51), — where it has been introduced with the *P. domestica*, — by Dr. J. C. Merrill. The February number (same volume) contains notes on the "Summer Birds of the White Mountain Region" (pp. 75—80), by H. D. Minot; an article on "Californian Garden Birds" (pp. 90—97), by Dr. J. G. Cooper; a reply to Mr. Allen's article in the preceding number on Bartramian names (pp. 98—102), by Dr. Elliott Coues; also, by the same, notes on the "Breeding Range of the Snowbird," *Junco hyemalis* (p. 114); on "Protective Resemblance in the Yellow-Bird," *Chrysomitris tristis* (p. 115), by Henry Gill-

[\* In addition to notices of papers published in the transactions of different scientific societies, or as special works, it is intended to note in the Bulletin all original ornithological articles appearing in various periodicals (beginning with the year 1876), thereby making the Bulletin a complete record of North American ornithological literature. Owing to limited space, it will be impracticable to give generally more than the titles of articles. The record here begun will be continued in future numbers. — Eds.]

† The American Naturalist. Edited by Dr. A. S. Packard, Jr. Boston: H. O. Houghton & Co.; New York: Hurd and Houghton. Vol. X and Vol. XI, January to June. (The departments of Ornithology and Mammalogy are now in charge of Dr. Elliott Coues.)

man. In the March number, Dr. W. Wood writes of the "Game Falcons of New England: the Goshawk" (pp. 132-135); J. A. Allen appears with a further note on Bartramian names (pp. 176, 177), and R. E. C. Stearns speaks of the abundance of Pelicans in San Francisco Bay, Cal. (p. 177). In the April number are notes on the breeding of the Red Crossbill (*Loxia curvirostra*) at Riverdale, N. Y. (p. 237), by E. A. Bicknell; on Bewick's Wren in New Jersey (p. 236), by Dr. C. C. Abbott; on "Habits of Western Birds,"—*Buteo swainsoni*, *Icterus bullocki*, *Stellula caliope*, *Corvus americanus*, and *C. corax*,—(p. 238), by Dr. W. J. Hoffman; on "Unusual Nesting-Sites of the Night-Hawk and Towhee Bunting" (p. 239), by Dr. Elliott Coues; and on "Small Birds [*Chrysomitis tristis* and *Dendreca coronata*] caught by the Burdock" (p. 239), by A. K. Fisher. The May number contains a call for information respecting the distribution of the Labrador Duck, *Campylorhynchus labradorius* (p. 303), by Dr. Coues. In the June number is a record of the capture of the European Woodcock in Virginia (p. 372), and a note on change of habits in the Bank Swallow (p. 373), by Dr. Coues; also remarks on the food of the Chapparal Cock, *Geococcyx californianus* (p. 373), by V. T. Chambers. In the July number J. Clarence Hersey notes the occurrence of the Little White Egret (*Ardea candidissima*) in Colorado (p. 430). The August number contains an account of a brief sojourn of large numbers of White Egrets at Trenton, N. J. (pp. 469-473), by Dr. C. C. Abbott; Robert Ridgway here states that the Bank Swallows (p. 493) referred to in the June number are the *Cotyle serripennis*, instead of *C. riparia*, as first stated. In the September number appears an historical article on "Progress of Ornithology in the United States during the Last Century" (pp. 536-550), by J. A. Allen, and a note on Bluebirds feeding on the berries of the Virginia Creeper (p. 556), by Henry Gillman. The October number contains a note on the egg of *Chionis* (p. 628), by Dr. J. H. Kidder. An article in the December number, by Dr. Elliott Coues, on the "Destruction of Birds by Telegraph Wire" (pp. 734-736), concludes the ornithological articles of Volume X.

In Volume XI we find, in the January number, "Notes on some Oregon Birds" (p. 44),—seven species,—by George R. Bacon, and a note on the Whistling Duck, *Bucephala americana* (p. 44), by J. F. LeBaron. In the February number, notes on some of the birds of the Fanning Islands (pp. 68-72), by Dr. T. H. Streets; in the April number, record of the occurrence of the Raven and the Sooty Tern (*Sterna fuliginosa*) at Williams-town, Mass. (p. 243), by Sanborn Tenney; in the May number, "Glimpses of Mind in Birds" (pp. 276-286), by Dr. C. C. Abbott; some observations on the winter birds of Arkansas (p. 307), by H. S. Reynolds; and a note on a carnivorous propensity of the Red-headed Woodpecker, *Melanerpes erythrocephalus* (p. 308), by Charles Aldrich. In the June number Judge J. D. Caton writes of the "Wild Turkey and its Domestication" (pp. 321-330).

"Field and Forest" \* continues to devote a considerable portion of its space to ornithology. Volume II (beginning July, 1876) contains the following: "On the Habits of *Steganopus wilsoni*" (pp. 11, 12), by A. L. Kumlien (already noted in this journal, Vol. I, p. 71); "Notes on Foster's Tern" (pp. 29-31), by Pierre Louis Jouy; "Sexual, Individual, and Geographical Variation in the Genus *Leucosticte*" (pp. 37-43), by Robert Ridgway; "Drumming of the Ruffed Grouse" (pp. 57-60), by David Scott; "Crows Seeking Water" (p. 65), by N. B. Webster; "Sexual Variation in the Genus *Leucosticte*" (pp. 76-79), by J. A. Allen; the "Tendency of Birds to vary in their Habits" (pp. 107-114), by David Scott; a Congress of Birds (p. 122), by L. F. Ward; "Unusual Accidents to Birds" (p. 106), by A. J. Kumlien; "Ornithological Notes from Texas" (pp. 154-156), by Ludovic Kumlien; "Catalogue of the Birds of the District of Columbia" (pp. 154-156, 178-181), by Pierre Louis Jouy,—a nominal list of 240 species; Remarks on the Birds of the District of Columbia (pp. 191-194), by Drs. E. Coues and D. W. Prentiss; "Mrs. Maxwell's Colorado Museum,—Collection of Birds" (pp. 194-199), by Robert Ridgway.—J. A. A.

Since January, 1876, several ornithological lists, of more or less importance, have appeared from time to time in "Forest and Stream." † While our space will not permit of a lengthy notice of these lists, a simple enumeration of them will be useful for reference. In Volume VI, pp. 99, 132, 163, 214, 266, 318, 354, 402, and Volume VII, pp. 147, 164, 276, Mr. Adolphe B. Covert, of Ann Arbor, Mich., has given an interesting List of the Birds of Lower Michigan, including two hundred and twelve species. In this list are recorded specimens of *Dendreca kirtlandi*, *Scolopax rusticola* (one specimen obtained by Dr. Wm. E. Lewitt, May 9, 1870), and *Campylorhynchus labradorius* (one specimen taken at Delphi Mills, Mich., April 17, 1872). In Volume VI, p. 148, Mr. G. Aug. Smith gives a List of the Birds of Fort Wayne, Ind., including fifty-two species. In Volume VI, pp. 233, 284, 337, 402, and Volume VII, pp. 36, 52, 84, 180, 230, Mr. H. G. Fowler, of Auburn, N. Y., gives a Partial List of the Birds of Central New York, from observation made in the counties of Cayuga, Seneca, and Wayne. In this list Mr. Fowler records the capture of *Querquedula cyanoptera* on Seneca River. This, we believe, is the only record for this species east of the Rocky Mountains. He also notes the occurrence of *Sterna fuliginosa* on Owasco Lake, a specimen having been taken there

\* Field and Forest. A Monthly Journal devoted to the Natural Sciences. Charles R. Dodge, Editor. Washington, D. C. Vol. II, Nos. 1-12, July, 1876, to June, 1877.

† Forest and Stream, a Weekly Journal devoted to Field and Aquatic Sports, Practical Natural History, Fish Culture, the Protection of Game, etc., etc. New York : Forest and Stream Publishing Company.

on September 20, 1876. The list comprises one hundred and sixty-eight species. In Volume VI, p. 300, Mr. H. Ernst, of Cleveland, Ohio, gives a List of the Warblers of the Western Reserve, in which he notes thirty-one species. In Volume VII, pp. 389 and 404, Colonel A. S. Brackett, U. S. A., gives a List of Birds of Southeastern Wyoming, including eighty-four species. In Volume VIII, pp. 33, 49, 96, 113, a List of the Birds of Webster, N. H., and adjoining towns, is given by Mr. Chas. F. Goodhue. This list comprises one hundred and thirty-three species. In Volume VIII, pp. 176, 192, 224, 241, 261, is a List of the Birds of the Coteau des Prairies of Eastern Dakota, by Chas. E. McCheaney, M. D., U. S. A., of Fort Sisseton, comprising one hundred and three species. — R. D.

**CALIFORNIAN ORNITHOLOGY.** — Dr. J. G. Cooper has recently published a paper \* of fourteen pages, entitled "New Facts relating to Californian Ornithology. — No. 1." This is supplemental to the same author's "Ornithology of California," and "includes only observations not previously published, and such opinions as differ from those of later authors." About fifty species are noticed, the notes respecting them relating mainly to their seasonal distribution and habits, but include descriptions of the nests and eggs of several species, with occasional remarks upon disputed points of nomenclature. He claims the name *nanus* for the species of Thrush usually known as *Turdus pallasi* (as has also Dr. T. M. Brewer), but inclines to the opinion that the name *guttatus* of Pallas (1811) will finally prove to be the only tenable name for the species. He also claims, on the ground of priority, that *sandwichensis* should take the place of *savanna* for the species of Sparrow, commonly known as *Passerulus savanna*. The paper is replete with interesting matter, and forms a valuable contribution to our knowledge of Californian Ornithology. — J. A. A.

**McCAULEY'S NOTES ON TEXAN ORNITHOLOGY.** † — Lieutenant C. A. H. McCauley has just given us the results of six weeks' observations made in May and June, 1876, on the ornithology of the country about the source of the Red River of Texas, embracing a portion of the region known as the Staked Plain. The paper includes notices of about one hundred species, with quite copious notes respecting the habits of a considerable proportion of them, with, in some cases, descriptions of their nests and eggs. This is almost the first special paper treating of the ornithology of Western

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\* Proc. Cal. Acad. Sci., 1876. Only the author's separates have yet been seen by the writer.

† Notes on the Ornithology of the Region about the Source of the Red River of Texas, from Observations made during the Exploration conducted by Lieutenant E. H. Ruffner, Corps of Engineers, U. S. A. By C. A. H. McCauley, Lieutenant Third United States Artillery. Annotated by Dr. Elliott Coues, U. S. A. Bull. U. S. Geol. and Geogr. Survey, Vol. III, No. 3, pp. 655 — 695, May 15, 1877.

Texas, and forms a most welcome contribution to our knowledge of the ornithology of that region. The list shows an unusual mingling of eastern and western species, and, as would be naturally expected, a considerable proportion of strictly southern forms. On the barren Staked Plain few birds were met with, and these mainly about water-holes ; along the timber-skirted streams, however, bird life was abundant. — J. A. A.

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### General Notes.

NEST AND EGGS OF TOWNSEND'S FLYCATCHER. — In July, 1876, while rambling with my brother over the mountains of Summit County, Colorado, it was my good fortune to find, at an altitude of about ten thousand feet, the nest of Townsend's Flycatcher (*Myiadestes townsendi*), and as no description of its eggs has as yet appeared, perhaps the following may not be uninteresting : The nest was very loosely, and, externally, shabbily built of long dry grasses, straggling two feet or more below it. It was placed in the upper bank of a miner's ditch (running from the Bear River, above Breckenridge, to the Gold Run and Buffalo Flat diggings), and was partly concealed by overhanging roots ; yet it was rendered so conspicuous by the loose swaying material of which it was composed, as well as by that which had become attached to the overhanging roots during its construction, as to attract the eye of an experienced collector when yet some rods away. On nearing the nest the bird immediately took flight, and alighted on the topmost branch of the nearest pine. Resting uneasily here for half a minute, it then, in short, uncertain flights, worked its way down the mountain side and out of sight. Withdrawing to a convenient cover, we had only to wait a few moments for the bird to return, perch herself on a branch a few feet from the nest, peer anxiously into it, and then quickly resume her task of incubation. Moving cautiously along the bank above the ditch, we tried to capture the bird by placing a hat over the nest, but, miscalculating its location by a few inches, the bird eluded the stroke and made good her escape, as she did also on our second attempt to capture her. Again retreating to cover, we waited for half an hour for the bird to return, when suddenly we espied it flying from branch to branch, displaying by its restless motions more anxiety and suspicion than before, yet constantly working nearer its home, which it soon reached and settled quietly again to business. After the last unsuccessful attempt to catch the bird, a stick was placed on the bank directly over the nest, to mark its exact locality, and this time, moving with less haste and more caution, we gained the desired position, lay down on the bank, and taking a hat in each hand quickly covered the opening and secured the unfortunate bird, and also the opportunity of giving to ornithologists an authentic

account of the number, size, and coloration of the eggs. The nest contained four eggs, very closely resembling those of the Shrikes. The ground-color is dull white or bluish, thickly blotched or freckled with reddish-brown. The measurements of the three specimens preserved are 1.01 by .66, .94 by .68, and .88 by .66. Incubation had been going on for about ten days, and unfortunately one egg was destroyed in cleaning.—WILBUR F. LAMB, *Holyoke, Mass.*

**PERSISTENCY AT NEST-BUILDING IN A HOUSE-WREN.**—A House-Wren (*Troglodytes aëdon*) has this season manifested a strong predilection for the nozzle of a pump for a nesting-site. The pump being in daily use, the nozzle, much to our surprise, was repeatedly found to be obstructed with sticks. An investigation of the novel incident led to the discovery of the cause, it being found that a House-Wren was industriously at work carrying materials into the pump for the construction of its nest. The bird was finally left one morning to carry on his work, when, at the end of two hours, it was found that he had filled the pump so full that water could not be obtained until a part of the sticks had been removed. The nest, through the necessary use of the pump, was three times destroyed before the persevering little fellow abandoned his work.—ABBOTT W. FRAZER, *Watertown, Mass.*

**A NEW BIRD TO MASSACHUSETTS.**—Mr. Charles W. Townsend, of Boston, shot, July 28, 1876, a male specimen of *Plectrophanes ornatus*. It was taken in Magnolia, near Gloucester, Mass., in a field near the sea-shore, and has been by Mr. Townsend presented to the New England collection of the Boston Natural History Society. It is an adult male, in worn plumage.—T. M. BREWER, *Boston, Mass.*

**A NEW FORM OF SURNIA TO NEW ENGLAND.**—Two fine specimens of the Hawk Owl have recently been taken in Houlton, Maine, and have been mounted by Mr. Welch in his usual superior style. They are both males, and while one is in the plumage usually known as *Surnia hudsonia*, the other is in that distinguished by the separate name of *Surnia ulula*, and supposed to be exclusively Palaearctic.—T. M. BREWER, *Boston, Mass.*

**CAPTURE OF THE PHILADELPHIA VIREO IN NEW HAMPSHIRE.**—A specimen of this bird (*Vireo philadelphicus*) was shot in Hollis, New Hampshire, May 26, 1876, by Mr. A. F. Eaton. It was feeding in company with two other birds of the same kind, in some low oak-bushes.—W. H. FOX, *Concord, Mass.*

**OCCURRENCE OF PASSERULUS PRINCIPIS IN NEW YORK.**—One of my correspondents, Mr. Frank E. Johnson, of Gravesend, Long Island, writes me that when out collecting, on December 20, 1876, on Coney Island, in New York harbor, he shot three specimens of a Sparrow new to him,

which were shown to Mr. George N. Lawrence, and pronounced to be the Ipswich Sparrow (*Passerculus princeps*). They were shot on the salt meadows of the island, and were in company with Savannah Sparrows (*Passerculus savanna*) and Swamp Sparrows (*Melospiza palustris*). This is the most southern record of this species.\* — H. B. BAILEY, *Newton, Mass.*

THE PIGEON-HAWK (*Fulco columbarius*) AT SEA. — While returning from a trip to Labrador, last summer, I observed small Hawks, undoubtedly of this species, at a considerable distance from land, on two occasions.

The first occasion was on the 5th of September. We were crossing the Gulf of St. Lawrence, and were in sight of the coast of Newfoundland, which was about twelve or fifteen miles distant. As many as four Hawks were seen, which came so near that we were able to recognize them as Pigeon-Hawks. They seemed to be perfectly at home, flying over the water, and showed no fear of the vessel, several times alighting on the rigging.

The first that appeared had a Leach's Petrel, dead, in his talons. He alighted with this, on the fore-crosstrees, and proceeded to eat it. The sailors were unwilling that we should fire into the rigging, so a young man went up the fore-rigging, and nearly caught the Hawk, which flew off, leaving his prey behind him. Three other Hawks came off to the vessel during the day, and were all shot, but all, unfortunately, fell into the water and could not be secured. The day was bright, clear, and warm, with a light wind from the north, so that we made very little progress. The Hawks appeared to come from the direction of Newfoundland.

The second occasion was during our run from Cape Sable to Boston, about fifty miles from the nearest land. It was the 10th of September, a bright day, with a strong northwest wind. A small Hawk, probably a Pigeon-Hawk, passed the vessel, flying to windward. Dr. Coues, in his "Notes on the Ornithology of Labrador," mentions that a Hawk of this species came on board their vessel during their return voyage, in a very exhausted condition. This bird, however, was very shy, and was immediately frightened away from the vessel. He also mentions seeing several Sparrow-Hawks while in the Gulf of St. Lawrence, off Cape Breton Island, which "circled quite closely around the vessel, showing but little fear." — JOHN MURDOCH, *Cambridge, Mass.*

CAPTURE OF A SECOND SPECIMEN OF HELMINTHOPHAGA LEUCOBRONCHIALIS. — In the first number of the Bulletin for the year 1876, Mr. Wm. Brewster described a new species of *Helminthophaga* (*H. leucobronchialis*), which he obtained in Newtonville, Mass., on May 18, 1870. He says in his article, "Whether it must be placed in the same category with the

\* For other records of occurrence of this species see this Bulletin, Vol. I, pp. 18, 52, and Vol. II, p. 27.

unique *Euspiza townsendi*, *Regulus curvieri*, etc., or, like *Dendroica kirtlandi*, will turn up occasionally in the future at different points, or still again, as in the case of *Centronyx bairdii*, will be found in large numbers, time alone can decide." It is with pleasure, therefore, that I can announce the capture of a second specimen of this species, so new to Ornithology, and particularly also because it was taken in a locality so far distant from where the first one was obtained. The specimen under consideration was shot by Mr. Christopher D. Wood, on the afternoon of May 12, 1877, in an apple orchard near Clifton, Delaware County, Pa. It proved to be a male, and answered to the description given by Mr. Brewster. It is, without doubt, a veritable specimen of *H. leucobronchialis*, and goes to prove the species a good one. It was first called to my attention by Mr. Wood himself, who told me that he had shot a specimen of *H. leucobronchialis* near Clifton. He afterwards showed me the bird, which he had been comparing with the plate of the former specimen, and found it to be identical. Whence these rarities come, whether they are abundant in certain sections, and the characters of the females, are matters not yet known; yet it is more than likely that at no very distant day both the present species, as well as *Helminthophaga lawrencei*, may prove to be nearly if not quite as abundant as the other species of the same genus.— SPENCER TROTTER, Philadelphia, Pa.

THE MOTTLED OWL AS A FISHERMAN.—On November 29, 1876, I took from a Mottled Owl's hole (*Scops asio*) the hinder half of a Woodcock (*Philohela minor*). Within two weeks after I took two Owls from the same hole, and on the 19th of January last I had the good fortune to take another. After extracting the Owl I put in my hand to see what else there was of interest, and found sixteen Horned Pouts (*Amiurus atrarius*), four of which were alive. When it occurred to me that all the ponds in the vicinity were under at least two feet of snow and ice, I could scarcely conjecture where the Horned Pouts could have been captured. After visiting all the ponds, I found they had most probably been captured in one fully a mile away, where some boys had been cutting holes through the ice to catch pickerel bait. The Owl probably stationed himself by the edge of the hole and seized the fish as they came to the surface. What a busy time he must have had flying thirty-two miles after sixteen Horned Pouts! I may also state in this connection that I once found the ground under a Great Horned Owl's nest (*Bubo virginianus*) literally strewn with fish-bones.— A. M. FRAZER, Watertown, Mass.

BREEDING OF LEACH'S PETREL ON THE COAST OF MAINE.—In the January number of the Bulletin (Vol. II, 1877) Mr. N. C. Brown refers to the Leach's Petrel (*Thalassidroma leucomelas*, Linn.) "as found for the first time breeding on the New England coast," and mentions meeting with its

nests on the Green Islands in Casco Bay. That Mr. Brown was not the first person to find it breeding even on the Green Islands would not be a fact of sufficient moment to call for correction did not his statement suggest the quite important error implied: that it is not known, and has not been known, to breed elsewhere on the coast of Maine. That this Petrel breeds along the greater part of the coast of Maine has been known as a fact for many years. Whether Casco Bay is its most western point remains to be ascertained.

In June, 1850, I made several weeks' explorations in the neighborhood of Eastport, and found this bird breeding in all the Grand Menan group — which geographically, if not politically, are part of the Maine coast — on the island of Eastport itself, and on a small island between Eastport and Machias. An account was published (*Bost. Jour. Nat. Hist.*, Vol. VI, p. 297). On the following year, in company with Dr. H. R. Storer, I continued these explorations, and ascertained that this species breeds abundantly on every suitable island as far west as Mt. Desert. Several years afterwards, in the summer of 1855, and again in 1856, in company with Dr. Dixon, of Damariscotta, we traced their breeding, in considerable numbers, as far west as Round Pond harbor, in Bristol, and in the Damariscove Islands, in the ocean, not far from the mouth of the Kennebec. In 1873, on Peakes Island, I saw specimens of the eggs and birds taken by Messrs. Franklin Benner and Spencer Baird Biddle in Casco Bay the same summer. On the strength of these observations, made by others as well as myself, in my Catalogue of the Birds of New England (*Proc. Bost. Soc. Nat. Hist.*, Vol. XVII, p. 450), I spoke of this Petrel as a summer resident on the coast of Maine. I have by me, in MS., the letters of both these gentlemen in regard to their observations. I subjoin a brief extract from the notes of Mr. Benner: —

"The first visit was made to Junk-of-Pork Island, about three miles northeast of Peakes, in Casco Bay, on July 16, 1873. The island has an area of half an acre at low water, and in the centre is an almost perpendicular piece of rock about forty feet in diameter and nearly twenty-five feet high. A dozen or more burrows of this Petrel, each with their single egg, were found in the earth that had accumulated on the top of this rock. The eggs were about half incubated. In two nests young were found only a day or two old. One of the parent birds was found in each burrow, and in one instance both.

"On the 22d of the same month I visited White Bull Island, located twelve miles farther to the eastward, and comprising a much larger extent of surface than the first. Here were also found the nests of the Petrel among many of the Terns. Young birds were found in many of them, and some eggs."

He speaks of having found them "abundant," and probably breeding in several other "of the many barren islands in the neighborhood." — T. M. BREWER, *Boston, Mass.*

NEST AND EGGS OF THE ALASKAN WREN.—In a small collection of birds' skins, nests, and eggs recently acquired by the Museum of Comparative Zoölogy, collected at the Pribylow Islands, Alaska, is the nest and two eggs of the Alaskan Wren (*Troglodytes parvulus* var. *alascensis*), which are believed to be the first ever seen by naturalists. The nest is quite large and very compactly built, being composed externally of fine moss of a bright green color, interwoven with fine roots, and lined heavily with hair and feathers. Conspicuous among the latter are the rosy-tipped feathers of the *Leucosticte griseinucha*. The hairs are rather coarse and white, three to four or five inches in length, and appear to be hairs of the Polar Bear. The nest was obtained in June, 1876, on St. George Island, by Mr. W. J. McIntyre, to whom it was brought by a native. It is said to have been placed deep down in the crevices of large rocks, and to have originally contained twelve eggs, all but two of which were broken before they came into Mr. McIntyre's possession. These measure, respectively, .68 by .51 and .60 by .50. Their general color is dull white, with a very few minute dots of reddish, so few and small as to be easily overlooked. The nest is represented to be very hard to find, being placed so deeply among the rocks, this being the only one Mr. McIntyre could obtain during two years' residence at the Islands, although he had a standing offer for them of about ten dollars in gold each.—J. A. ALLEN, *Cambridge, Mass.*

JUNCO OREGONUS IN ILLINOIS.—October 14, 1875, I saw a flock of some dozen birds in a willow-tree, and killed one with a sling. The rest flew off, and were not seen again. The specimen was sent to Mr. E. W. Nelson, who identified it as *Junco oregonus*, the first one of this species captured in this State, its extreme eastern range as heretofore known being Kansas.—H. K. COALE, *Chicago, Ill.*

LEPTOPTILA ALBIFRONS, A PIGEON NEW TO THE UNITED STATES FAUNA.—Mr. George B. Sennett, a diligent and zealous ornithologist, who has been making collections and observations in Southern Texas, writes as follows from Hidalgo, Tex., under date of May 2, 1877:—

"I have a dove which I do not identify, and accordingly send you a description of a specimen killed April 18. This is a male. I have secured four specimens, and hope to find the nest, as I am satisfied they breed here. Their cooing is low and short, ending with a falling inflection, and is easily recognized by its peculiarity. . . . Length, 12.50; extent, 19.50; wing, 6.35; tail, 4.50; tarsus, 1.37, middle toe and claw the same; bill, .62, black. Iris yellow. Orbital space small, faintly red and blue. Tail square, of twelve feathers. Upper parts greenish-olive, the metallic coloring purple with bronzy-green reflections, and restricted to back of neck. Crown drab, shading to nearly white on the forehead. Chin white. Foreneck creamy-slate. Belly white. Sides ashy. Wings brown, slaty below, and whole underwing-coverts are bright chestnut, which color ex-

tends even on the sides. Middle tail-feathers like the back ; others brown above, and tipped with white in increasing amount, till the outer ones are white for half an inch ; tail below black, with the white tips, as just said. Under tail-coverts pure white. In general habits, the bird is quiet and not readily alarmed ; it associates with the White-winged Doves (*Melopelia leucoptera*), and prefers tall trees to undergrowth."

I sent my correspondent's letter to Mr. Ridgway, who kindly compared the description with specimens of *Leptotila albifrons* in the National Museum, and made this identification.—ELLIOTT COUES, Washington, D. C.

MELOPELIA LEUCOPTERA IN COLORADO.—Mr. E. L. Berthoud, writing from Golden, Col., March 7, 1877, informs me of the occurrence of this species near timber line on the head of Cub Creek, Jefferson County. He saw a dozen or more of the birds—rare in this region—in July, 1869. This verifies my surmise (Birds of the Northwest, p. 386) of the actual occurrence of the species beyond hitherto recorded limits.—ELLIOTT COUES, Washington, D. C.

THE RUFF AND THE PURPLE GALLINULE IN OHIO.—Dr. Theodore Jasper, of this city, obtained, November 10, 1872, at the Licking Reservoir, thirty miles east of Columbus, a Wader which remained unidentified till recently. I was of the opinion that it would prove to be either *Philomachus pugnax*, or a nondescript. On communicating my views to Mr. H. W. Henshaw, of Washington, he kindly offered to compare the specimen with others in the National Museum. He writes that the bird, which was a male (probably young), is positively identical with specimens of that species in the collection of the National Museum.

I have also just received from my friend, Dr. Howard E. Jones, a fine skin of the Purple Gallinule (*Porphyrio martinica*), killed by him at Circleville, Ohio, May 10, 1877. This bird is now recorded for the first time, on unimpeachable authority, as a visitor to this State. Dr. Jones tells me that it has been seen before in the vicinity of Circleville. In my Catalogue of the Birds of Ohio (Ohio Agric. Rep., 1860), it was inserted on what I afterward discovered to be insufficient authority, and for that reason it was omitted from a subsequent list (Food of Birds, etc. 1875). I have several times been favored with reports, and once or twice with skins, presumed to be of this species, which proved, however, to be those of the Florida Gallinule, which is not a rare summer resident throughout the State.—J. M. WHEATON, Columbus, O.

NOTES ON NYCTALE ACADICA.—Although not generally common in any locality, the Acadian or Saw-whet Owl has been of quite frequent occurrence in Chicago and immediate vicinity during the past three years. A female of this species in my collection was caught alive while sleeping on one of the lower branches of a pine-tree, June 23, 1874. In July of the same year three adult specimens were shot by a boy, who saved only

the wings, as he did not understand preserving skins. November 4 an adult female was shot in a small grove of pine-trees near the south city limits. It measured,  $8.12 \times 18.60$ ; wing, 5.50. March 26, Mr. C. C. Whitacre caught an adult male at the same place. It was kept alive for several days, when it died from being caught between the bars of its cage. He afterwards shot two adult females in the same grove (which has since gone by the name of the Acadian Grove), and also found one dead in his yard. March 28 Mr. J. B. Osborne shot an adult female, and June 15 a young female, both of which are now in my possession. The latter measured,  $7.37 \times 19.25$ ; wing, 5.62. Disc dark brown; forehead, wings, and tail beginning to show white markings, as in the adult. July 10 a second young specimen was brought to me alive. Although just captured, it showed no fear on being handled. In the shade the iris was hardly visible, while in the sun the pupil contracted so much as to appear as only a small black spot. The bird always sat, when perched, with two toes before and two behind, puffing out its feathers at times so that it looked nearly as round as a ball. The white markings were more clearly defined than in the other, extending farther back on the forehead, and entirely round the outer edge of the disc. This specimen is in the collection of Dr. J. W. Velie, who also found one dead on the lake shore at Hyde Park, Ill. July 16 a third juvenile was shot in a poplar-tree opposite my residence. It was still more advanced toward adult plumage than either of the others, especially about the head and wings. J. Strickland (taxidermist) has a young specimen which was caught here about a year ago. December 20 Mr. G. F. Clingman shot an adult female in Acadian Grove, and March 4, 1876, a second specimen was shot in the same place. These, with one male and two females which are also in collections here, make a total of twenty, including two adult males, fourteen adult females, and four in immature plumage. — H. K. COALE, Chicago, Ill.

PROBABLE BREEDING OF THE ACADIAN OWL (*Nyctale acadica*) IN MASSACHUSETTS. — The capture of this species in the adult state is by no means of rare occurrence in Massachusetts, but its presence is generally detected in the winter months. Of its breeding so far south in New England I think there has hitherto been no instance recorded. We are now able, however, to note the capture of three specimens in the plumage of the so-called "albifrons." The first was taken in Newton, Mass., on June 28, 1876; and the second at Hingham, Mass., on July 5, 1876; the third was captured in one of the cells in the Penitentiary on Deer Island, Boston Harbor, on the 8th of the same month, by an inmate of the prison. These localities being some ten or fifteen miles apart, it would seem hardly probable that these three Owls belonged to the same brood. On April 4, 1877, a specimen in adult plumage was captured in the Penitentiary on Deer Island, where the above-mentioned immature specimen was taken. I am indebted to Mr. Wm. J. Knowlton, of Boston, for the above facts, and from him I obtained one of the young specimens. — RUTHVEN DEANE, Cambridge, Mass.

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NOTES ON *MOLOTHRUS AENEUS*, WAGL.

BY J. C. MERRILL, ASSISTANT SURGEON, U. S. A.

THE occurrence of this species north of Mexico was noted in the Bulletin of November, 1876 (Vol. I, p. 88). It is now more than a year since it was first observed, and during that time I have had ample opportunity to study its habits, a short account of which may be of interest. This Cowbird is found in Mexico, Guatemala, and Veragua, as well as in Southern Texas; how far it penetrates into the latter State I am unable to say. My first specimens were taken at Hidalgo, on the Rio Grande, seventy miles northwest of Fort Brown, where, however, they are not so abundant as lower down the river. Here they are common throughout the year, a small proportion going south in winter. Those that remain gather in large flocks with the Long-tailed Grackles, common Cowbirds, and Brewer's, Red-winged, and Yellow-headed Blackbirds; they become very tame, and the abundance of food about the picket-lines attracts them for miles around. *M. aeneus* is readily distinguishable in these mixed gatherings from the other species by its blood-red iris and its peculiar top-heavy appearance, caused by its habit of puffing out the feathers of the head and neck. This habit is most marked during the breeding-season and in the male, but is seen throughout the year.

About the middle of April the common Cowbird, Brewer's, and Yellow-headed Blackbirds leave for the North; the Long-tailed Grackles have formed their colonies in favorite clumps of mesquite trees; the Redwings that remain to breed have selected sites for their nests; the dwarf Cowbirds (*Molothrus pecoris* var. *obscurus*)

arrive from the South, and *M. aeneus* gather in flocks by themselves, and wait for their victims to build. The males have now a variety of notes, somewhat resembling those of the common Cowbird (*Molothrus pecoris*), but more harsh. During the day they scatter over the surrounding country in little companies of one or two females, and half a dozen males, returning at nightfall to the vicinity of the picket lines. While the females are feeding or resting in the shade of a bush, the males are eagerly paying their addresses by puffing out their feathers, as above noted, strutting up and down, and nodding and bowing in a very odd manner. Every now and then one of the males rises in the air, and, poising himself two or three feet above the female, flutters for a minute or two, following her if she moves away, and then descends to resume his puffing and bowing. This habit of fluttering in the air was what first attracted my attention to the species. In other respects their habits seem to be like those of the eastern Cowbird (*M. pecoris*).

My first egg of *M. aeneus* was taken on May 14, 1876, in a Cardinal's nest. A few days before this a soldier brought me a similar egg, saying he found it in a Scissor-tail's (*Milvulus*) nest; not recognizing it at the time, I paid little attention to him, and did not keep the egg. I soon found several others, and have taken in all twenty-two specimens the past season. All but two of these were found in nests of the Bullock's, Hooded, and small Orchard Orioles (*Icterus spurius* var. *affinis*). It is a curious fact that although Yellow-breasted Chats and Red-winged Blackbirds breed abundantly in places most frequented by these Cowbirds, I have but once found the latter's egg in a Chat's nest, and never in a Red-wing's, though I have looked in very many of them. Perhaps they feel that the line should be drawn somewhere, and select their cousins the Blackbirds as coming within it; the Dwarf Cowbirds are not troubled by this scruple, however. Several of these parasitic eggs were found under interesting conditions. On six occasions I have found an egg of both Cowbirds in the same nest; in four of these there were eggs of the rightful owner,\* who was sitting; in the other two the Cowbird's eggs were alone in the nests, which

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\* It would be interesting to know what would have become of the three species in one nest, and had the latter been near the fort, where I could have visited them daily, I should not have taken the eggs. It is probable, however, that *M. aeneus* would have disposed of the young Dwarf Cowbird as easily as of the young Orioles.

were deserted : but I have known the Hooded Oriole to sit on an egg of *M. aeneus*, which was on the point of hatching when found ; how its own disappeared I cannot say. Once two eggs of *aeneus* were found in a nest of the small Orchard Oriole (var. *affinis*). Twice I have seen a broken egg of *aeneus* under nests of Bullock's Oriole on which the owner was sitting.

Early in June a nest of the Hooded Oriole was found with four eggs and one of *M. aeneus*, all of which I removed, leaving the nest. Happening to pass by it a few days later, I looked in, and to my surprise found two eggs of *aeneus*, which were taken ; these were so unlike that they were probably laid by different birds. Still another egg, and the last, was laid in the same nest within ten days. But the most remarkable instance was a nest of the small Orchard Oriole, found June 20, containing three eggs of *aeneus*, while just beneath it was a ~~whole~~ egg of this parasite, also a broken one of this and of the Dwarf Cowbird (var. *obscurus*). Two of the eggs in the nest were rotten ; the third, strange to say, contained a living embryo. As the nest was certainly deserted, I can only account for this by supposing that the two rotten ones were laid about the first week of June, when there was considerable rain, and that the other was deposited soon after, since which time the weather had been clear and very hot. On one occasion I found a female *aeneus* hanging with a stout thread around its neck to a nest of the Bullock's Oriole. The nest contained one young one of this Cowbird, and it is probable that its parent, after depositing the egg, was entangled in the thread on hurriedly leaving the nest, and there died ; it had apparently been dead about two weeks. This case supports the view that the eggs or young of the owner are thrown out by the young parasite, and not removed by its parent, though I could find no trace of them beneath the nest.

Twenty-two eggs of *M. aeneus* average  $.90 \times .70$ , the extremes being  $.95 \times .75$  and  $.82 \times .65$ . The color is a *greenish-white, unspotted, soon fading to a dull opaque white*. There is more than the usual variation in shape. Some are almost perfectly elliptical, others are nearly round ; some are quite pointed at the smaller end, while others still are there abruptly truncate.

The young, soon after leaving the nest, have the plumage uniform dull black ; cheeks and sides of head bare ; iris brown.

*Fort Brown, Texas.*

## ON SEVENTY-FIVE DOUBTFUL WEST-COAST BIRDS.

BY J. G. COOPER, M. D.

IN Ornithological works written previous to 1860 we find many species of birds mentioned as from "California" and the "Northwest Coast," which have not been confirmed as from that region, and are therefore not referred to in more recent works. It is an interesting question whether they were always wrongly allocated there, or whether they may not, in many cases, have actually occurred as stragglers, and deserve, therefore, a place in our Fauna. As an aid in deciding these questions, I have compiled a list of all I can find, with such remarks as seem required respecting the chances of their occurrence, based on my own experience as a collector there for more than twenty years, and the observations of others on their usual range of distribution.

In 1852 Professor Baird published in Stansbury's Report of his Exploration of the Great Salt Lake, p. 327, a list of such species as were then known, including all given by authors as from west of the Mississippi, but not figured by Audubon. The one hundred and fifty-three nominal species included ninety-one from the Pacific slope, of which only twenty have not been since confirmed as belonging to our Fauna. Most of these were referred to again in his "Birds of North America." Mr. Cassin undertook to figure and describe "all" of these in his "Illustrations," but was undoubtedly saved from the repetition of many errors by the extensive collections soon after made by the Pacific Railroad Expeditions, although he has introduced several not since found in the United States.

In Volume XII, Part II, p. 288, of the Pacific Railroad Reports ("Natural History of Washington Territory") Dr. Suckley and myself, in 1859-60, printed a hastily prepared list of birds, not confirmed by us as from the "Northwest Coast," most of which, however, do not require to be excluded at present, only twenty out of one hundred and twenty-three coming into this list. I have carefully reviewed every accessible authority, and included only such as are distinct species and not represented within the regions named by geographical races or near analogues, which might

reasonably be mistaken for them. The older authors in confounding the races were quite excusable in giving them the same specific names. Those now to be noticed come under three divisions as to geographical distribution, viz.: first, those of tropical and South America; second, those of Asia; third, those of the Eastern United States. All circumpolar species, even if not recently found on this coast, are omitted as very likely to be found. The probability of the occurrence of the others varies chiefly with the nearness of their usual range and their powers of flight, so that we may frequently consider their occurrence as next to impossible, as with the Mexican Quails and Jays which have been so often credited to "California."

What we know of the Asiatic stragglers to Alaska shows that they are usually strong flyers, and I may here mention two of the Raptorees found only in California so far, and each but once, which have a very Asiatic aspect, viz. *Buteo cooperi* and *Onychotes gruberi*.

The first doubtful West-coast birds were given by Gmelin as from "Unalaska, Nootka," etc.; the next came from "Oregon"; and not until 1830 did species begin to be credited to "California." At that time the peninsula was included in this name, and yet very few species, if any, were wrongly located on that account, most of those not found in "Upper California" being now unknown on the peninsula, though often found on the West Mexican coast. The cool sea-breezes of the coast act as an obstacle to the northward migration of many tropical species occurring on the Atlantic coast in summer much farther north, while the Colorado Desert, over one hundred miles wide, debars many more from the hotter interior.

A few have been called "Californian" which occur about the Gulf, but not within sixty miles of our line, though of course the water-birds may follow so far up the Colorado River. Many were no doubt carelessly labelled by collectors, or designedly misrepresented as from regions then almost inaccessible, to increase their value.

As to "Oregon" of authors before 1853, it must also be remarked, that they included under the name the whole country drained by the Columbia River; and even now the State includes part of the "Middle Province" of Baird, in which are found birds not known from the coast. Captain Bendire is now for the first

time collecting thoroughly the birds of Eastern Oregon; and his published notes, as well as those of Allen and Henshaw for Utah, of Ridgway for Nevada, and Coues, Henshaw, and others for Arizona, show very clearly what species distinguish the Middle and Western Provinces. Although about fifty species of Land Birds are given in the first volume of "Ornithology of California," which belong properly to the Middle Province or to Lower California, their habitats are so carefully described there that it is not necessary to include the species here, except in a very few striking cases.

As shown by Professor Baird from the Xantus collection made at Cape Saint Lucas, the Middle Province birds become common on the coast and peninsula south of latitude thirty-five degrees, to the exclusion of most of the characteristic Californian species, while very few of those of tropical Mexico occur on the peninsula, so that the chances are largely against the occurrence of the latter within our limits. Assistance derived from original observations and investigations by scientific friends, often unpublished before, is acknowledged by giving their names as authority.

1. **Turdus flavirostris**, Swains., 1827, = *T. rufopalliatus*, Lafres., 1840, "Monterey, Cal." An abundant West Mexican bird, which may straggle northward with flocks of *T. migratorius*, which it closely resembles in habits.
2. **Harporhynchus rufus** var. *longirostris* (Lafres.), 1838. "California and Mexico." The occurrence of this Eastern Mexican form is not improbable, and it may have been the bird seen by me at Clear Lake, Cal., as recorded in History of N. A. Birds, III, 500.
3. **Ægithina leucoptera**, Vieill., 1807, "North America," = ? *Motacilla leucoptera*, Vig., 1839, "Western North America," Baird, List, 1852 (not of Quoy and Gaimard, which is a Palearctic bird). If = *Sylvia leucoptera*, Wilson, Index, it is *Dendreca cerulescens*, not known far west of the Mississippi (Coues). [*Ægithina leucoptera*, Vieill., according to Gray (Hand-List), is from India, while *M. leucoptera*, Vigors, is from Persia (Lawrence).]
4. **Sialia sialis** (Linn.). "Columbia River," Aud. Syn., 1839 (error ?). Not mentioned from there by Townsend nor Nuttall, who were then the chief authorities. Still it very probably will occur west of the Rocky Mountains. Some specimens of *S. mexicana* are stated to approach very near it, from which Audubon's statement may have arisen.
5. **Parus carolinensis**, Aud. "Oregon," Nuttall, 1840, by error for *P. atricapillus* var. *occidentalis*, which is very near it.

6. **Geothlypis velatus** (*Vieill.*) = *Trichas delafieldi*, Aud., 1839, Nutt., 1840, Heermann, 1858. "Oregon and California." It seems strange that a bird so common as *G. trichas* is in the East should be confounded with such a different South American species. Townsend's specimen was doubtless from South America, but Heermann's were only *G. trichas*. Lately recorded from Mazatlan, Mexico, and may therefore reach the Lower Colorado.

7. **Siurus auricapillus** (*Linn.*). "Oregon," Nuttall, 1840, and recently recorded from Idaho, as well as Alaska and Mazatlan. "California," Bonap., Notes Delat., 1853, but may have been obtained in Nicaragua. Still it very probably migrates occasionally through California.

8. **Dendroica montana** (*Wils.*). "California," Aud., 1839-41, Nutt., 1840. There is no further information respecting this very rare and scarcely known bird than is given by the above-named authors.

9. **Dendroica striata** (*Forst.*). "Oregon," Aud. Syn., 1839. Not given by Townsend nor Nuttall, though it should pass west of the Rocky Mountains in going from Alaska to the tropics. Yet it is not recorded as from the Rocky Mountains or Mexico.

10. **Dendroica caerulea** (*Wils.*) = *azurea*, Steph. "Oregon," Townsend's List, 1839, Aud., 1839, Nutt., 1840. Recently found west of the Rocky Mountains, so that it may not have been confounded by Townsend, etc., with *Polioptila*, as I suspected. It has not been detected near the coast.

11. **Setophaga ruticilla** (*Linn.*). "California," Bonap., Notes Delat., 1853, but was perhaps from Nicaragua. Still, as it is common throughout the Rocky Mountains in summer, it may occur in California, though not known from Western Mexico.

12. **Collocalia ? unalaschekensis** (*Gmel.*). According to Cassin (Illust., 1855, 251), Gmelin's bird belongs to the genus *Collocalia*, which is peculiar to the Pacific (tropical) islands, Japan, etc. If really found on the Aleutian Islands, some may be expected to straggle to our coast in winter, with other Asiatic species found there by Dall.

13. **Hypocolius ampelinus**, Bonap., 1850 (Consp.). "California." This species is now known to be from Sennaar, Upper Egypt, and is undoubtedly to be removed from the list of West-coast birds.

14. **Lanius lahtora**, Sykes, = *L. elegans*, Swains., 1831, Nutt., 1840. Supposed to have been received from Northwest America, but it inhabits Siberia. Stragglers may, however, cross Behring's Straits, like several other birds. "*L. elegans*" of other American authors is *Collurio ludovicianus* (L.) var. *robustus*, Baird, 1873.

15. **Vireo agilis**, Licht., 1823, = *V. virescens*, Cass., not of Vieill., which is *V. bartrami*, Swains., 1831; not of Aud., 1839, nor Nuttall, 1840. This species, confounded by former authors with *V. gilvus* var. *swainsoni*, has not been found north of Mexico, nor perhaps in North America, unless Douglas really found it at the Columbia River, as supposed by Swainson.

16. *Coccothraustes ferreirostris*, *Vigors*, 1838, — *papa*, *Kittl.*, 1830. “California,” *Baird*, 1852.\* [This is now recognized as the *papa* of *Kitlitz* from the Bonin Islands (Allen).]

17. *Pyrrhula inornata*, *Vigors*, 1839. “Northwest coast of America,” *Baird*, *List*, 1852. Probably Asiatic; certainly not North American.

18. *Ramphospis flammigerus*, *Jard.*, about 1830, “Columbia River.” [Now known to be South American, — *Columbia*, *Sclater* and *Salvin*; *New Grenada*, *Gray* (Allen).]

19. *Chrysopoga typica*, *Bonap.*, 1850. “California.” [A Mexican and Central American species, not yet confirmed as from California (Allen).]

20. “*Emberiza*” *atricapilla*, *Gmel.*, 1788, *Aud.*, 1839 – 41. These authors confound this Sandwich Island bird with the *Zonotrichia coronata*, *Pall.*, a common California bird described in 1831.

21. “*Fringilla maculata*,” *Aud.*, 1839 (Townsend’s List), was a confusing of *Hedymeles melanocephalus*, *Swains.*, with some foreign species, perhaps *Pipilo maculata*, *Swains.* It occurs only in Audubon’s plate.†

22. *Pyrgisoma bicoloruatum* (*Lafres.*), 1855, “California,” is a Central American bird.

23. *Saltator rufiventris*, *Vigors*, 1839, “West coast of North America,” *Baird*, *List*, 1852. [A Bolivian species (Allen).]

24. *Icterus baltimore* (*Linn.*), “Columbia River.” *Aud. Syn.*, 1839. No authority is given, and it is not mentioned by Townsend or Nuttall. Like the *Sialia*, it can only be a straggler.

25. *Icterus pustulatus*, *Licht.*, “California,” *Bonap.*, Notes Delatt., 1853, probably for Nicaragua. Some of these species may be looked for along the Colorado River.

26. *Icterus “californicus”* (*Lesson*), 1844; “California,” *Bonap.*, *Consp.*, 1850. [This is a synonym of *I. pustulatus* (*Lawrence*).]

27. *Icterus icterocephalus* (*Linn.*), *Bonap.*, 1825, *Nuttall*, 1832 – 40. This well-known South American bird was only at first confounded with our *Xanthocephalus*, and should not have been credited to California by Nuttall.

28. *Xanthornus mexicanus* (*Briss.*). “Pacific coast of (North?) America,” *Baird*, *List*, 1852. [Probably *Gymnomystax melanicterus* (*Vieill.*) of tropical America (Allen).]

29. *Trupialis militaris* (*Linn.*). “Monterey, Cal.” *Neboux*, *Voy. de la Venus*, 1855; “San Francisco,” *Cutts*, in *Baird’s N. A. Birds*, 1858.

\* *Chrysomitriss yarrelli* (*Aud.*) and *Hypocanthus stanleyi* (*Aud.*) are now generally believed to be (if not hybrid cage-birds) from South America, and as he gives no authority for “Upper California,” they may be omitted.

† *Plectrophanes macconni*, *Lawr.*, is quoted from “California” by *Cassin* (*Ill.*, p. 229), but has not lately been found west of Arizona. *Calamospiza bicolor*, *Towns.*, before reported doubtfully from “California,” has been found as a rare bird near Tulare Lake, by Mr. W. A. Cooper.

Although not recently obtained in North America, it has thus been twice reported from California.

30. *Quiscalus major*, Vieill. "California," Gambel, 1847, but he obtained it only at Mazatlan. It may be looked for on the Lower Colorado.

31. *Quiscalus purpureus* (Bartr.). "Oregon," Aud., 1839, without authority. "California," Gambel, 1847, Newberry, 1857, who probably both mistook *Scolecophagus cyanocephalus* for it; no specimens are known from the west slope. *S. ferrugineus* (Gm.), "Oregon," Townsend, was obtained there by Peale, and is common in Alaska.

32. *Corvus ossifragus*, Wils. "Oregon," Townsend's List, Aud. Syn., 1839; "California," Woodhouse, 1853; all mistaking *C. americanus* var. *caurinus* for it.

33. *Cyanocitta becheyi* (Vigors), 1829. "California," Botta in Eydoux's Voy. de la Favorite, 1839, but not known from the peninsula recently, or found north of Mexico.

34. *Cyanocitta ultramarina* (Temm.). Audubon (1839-40) and Nuttall (1840) confounded this Mexican species with *C. californica* (Vig.). The var. *arizonæ*, Ridgw., may reach California at the Lower Colorado River.

35. *Calocitta colliei* (Vigor), 1829, — *Pica bullocki*, Aud., 1831-42 (not of Wagler), Nuttall, 1840, both of whom described it as from the "Columbia River," but without good authority, while Nuttall denies ever having seen it there or in California. It probably does not even straggle north of Mazatlan, Mexico.

36. *Cyanocorax geoffroyi*, Bonap., 1850. "California." [This is a synonym of *Cyanocitta becheyi* (Lawrence).]

37. *Sayornis fuscus* (Gmel.). "Oregon," Townsend's List, 1839, but it is not now known west of long. 100°. He may have mistaken *S. nigricans* for it, as that reaches Southern Oregon.\*

38. *Antrostomus? macromystax* (Wagl.), Cassin, p. 240. "California," from a label in Mus. Phil. Acad. A well-known Mexican species.

39. *Antrostomus nigrescens?* Cab., — *A. californianus*, Bonap., 1850, New Grenada. I think some of the larger tropical species of this family may stray into California, as I saw what appeared to be one as large as *A. carolinensis* in Ventura County in 1872, but could not obtain it, and heard no note.

40. *Picus lineatus*, Linn. "Oregon," Aud., 1839-41, from a specimen in Edinburgh "sent by Dr. Gairdner." Not known from North America, and was probably collected in South America.

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\* *Saurophagus bairdi*, Gamb., 1847, has been attributed to California, but was given by the author as from the Gulf Region of Mexico. It is South American, and has not recently been reported from Mexico.

41. *Dryotomus delattri*, Bonap., 1854. Doubtless labelled "California" by error for Nicaragua.

42. *Campephilus imperialis* (Gould), 1832. "California," Aud., 1839, Nutt., 1840, Cassin (figured), 1855. Although Nuttall states that Townsend shot a specimen in the Rocky Mountains, near the head of the Colorado River, it is not mentioned in Townsend's List, nor figured by Audubon. Townsend, however, states that he shot, but lost, a Woodpecker resembling this on Malade River (now in Idaho). Cassin gives reasons for supposing it may also occur in California, and it is to be looked for in Arizona.

43. *Melanerpes erythrocephalus* (Linn.). "California," Gambel, 1847, Baird in Ornith. of Cal., 1870. Dr. Gambel does not seem to have preserved any specimens, and as no later collectors have found it west of Salt Lake City ("one seen," Ridgway), its occurrence in California must be merely accidental.

44. *Ceryle americana* (Gmel.). "Colorado River," Coues, 1866. As Dr. Coues only thought he saw this species along the river, and as such a large bird could scarcely escape the many collectors who have been at Fort Yuma and along the Gila River (whose clear waters are better suited for it than the muddy Colorado), we may doubt its occurrence until specimens are obtained its range in Texas not being north of lat. 30°.

45. *Haliaëtus pelagicus* (Pall.), 1831. "Aleutian Islands." Although not obtained by late collectors in that region, its occurrence as a frequent visitor from Kamtschatka is more probable even than that of *H. albicilla* to Greenland, and it may be looked for at least as far south as lat. 50° on our coast.

46. *Syrnium nebulosum* (Forst.). "California," Woodhouse, 1853. The birds seen by him in Arizona, also, were probably *S. occidentale*, Xantus, 1859. See Baird in Orn. of Cal., 1870, p. 431. There are several instances besides this in which southern species of Owls do not extend across the continent, although those of the arctic regions, being mostly circumpolar, are common to both sides. Thus *Nyctale tengmalmi* might have been included in the Orn. of Cal. instead of this, it having been found in Oregon by Townsend.

47. *Cathartes atrata* (Bartr.). "Columbia River," Douglass in Faun. Bor. Am., 1831, Aud., 1839, Peale, 1848, Cassin, Ill., 1853, 1858. It is possible that these references were to the young of *Rhinogryphus aura*, although an actual specimen seems to be alluded to. Dr. Gambel found it quite common about the Gulf of California, but does not add California as in other cases, nor has it been detected, though very likely to be, along the Colorado.

48. *Sarcorhamphus gryphus* (Linn.). "Southwestern States," Bonap., 1828-33; "Rocky Mountains," 1832-40, quoting Lewis and Clarke's "bustards," and the bill and talons brought by them to Peale's Museum. These were, however, probably those of *Pseudogryphus californicus*.

*nianus*, and from the Lower Columbia River. The Condor is doubtless confined to South America, though quite able to visit our latitude.

49. **Melopelia leucoptera** (*Linn.*). This species, common in Arizona, has not been collected in California, but in 1853 I saw white-winged wild Pigeons, which I then had no doubt were this species, in the San Francisco market. As they are often caged in Mexico, these may have come from there, but it is also very probable that they may wander so far, like the little Ground Dove, which has been shot at San Francisco.

50. **Ortyx fasciatus**, *Natterer* MSS. "California," *Gould*, 1843, but it is not now known north of Colima, Mex., and not at all likely to be found north of that point.

51. **Lophortyx elegans** (*Lesson*), 1831. "Upper California," *Nuttall*, 1840, who, however, did not see it. Found at Mazatlan, but not much to the northward. *L. douglassi*, *Vig.*, is probably young of *L. californicus*.

52. **Eupsychortex cristatus** (*Linn.*) = *O. neoxenus*, *Vig.*, 1830, *Aud.*, 1839 - 42, *Nutt.*, 1840. "Northwest coast of America," *Beechey*; "California," *Audubon*. This species is not given in any recent lists of birds of western tropical America. Beechey's specimen may have been a cage-bird, or obtained in Costa Rica.

53. **Gambetta flavipes** (*Gmel.*). "Oregon," *Townsend*, 1839; "California," *Woodhouse*, 1853, *Newberry*, 1857. Although some undoubtedly occur for a considerable distance west of the Rocky Mountains and in Alaska, it is a curious fact that no specimen seems to have been collected in California, Nevada, or Arizona, nor have I seen it, while the larger species is abundant.

54. **Hæmatopus ater**, *Vieill.* = *H. townsendi*, *Aud.*, 1839. "Oregon," *Aud.*, not *Townsend*. Doubtless collected in South America, but, like other shore birds, may be also more or less common to the coast of North America.

55. **Numenius rufiventris**, *Vig.*, 1828. "Pacific coast of North America." The name would apply well to a common variety of *N. longirostris*; but it is not yet quoted as a synonym of that species, though there seems to be no other species on the coast to which it is referable.\*

56. **Grus americana**, *Forst.* "Oregon and California," *Townsend* and *Audubon*, 1839. The error arose from confounding *G. canadensis* with this, which is not now known to go west of long. 100°.

57. **Audubonia occidentalis** (*Aud.*). "California," *Gambel*, 1847, "to Columbia River"; *Newberry*, 1857. No specimens were obtained, and they no doubt mistook the large var. "*californica*" of *Ardea egretta* for it.

58. **Platalea ajaja**, *Linn.* = "*P. mexicana*,"? *Willoughby*. "California to San Francisco," *Gambel*, 1847. Not seen since then north of the Gulf of

\* *Actidromus "bonapartei,"* *Cassin*, 1858, not of *Schlegel*, was confounded by him with *A. bairdi*, *Coues*, 1861, and is still doubtful as a West-coast bird, as is the more northern and Alaskan *Actiturus bartramius* (*Wils.*).

California, and not very likely to straggle so far north, although *Tantalus loculator* visits San Francisco Bay and vicinity every year. Could he have been deceived by hearing *Spatula clypeata* called "Spoon-bill"?

59. *Anser segetum* (Gmel.). "Probably on Northwest coast in winter," Nuttall, 1832. The evidence for the occurrence of this species anywhere in North America is very slight, although it is quoted by Swainson and Richardson from Hearne. [Doubtless *A. canadensis* (Coues).]

60. *Anas obscura*, Gmel. "Oregon," Aud., 1839, Townsend's List, "California," Woodhouse, 1853. This, probably a melanistic form of the Mallard, has not recently been found west of Utah. (See Henshaw, Rept., 1875.)

61. *Dafila urophasiana* (Vig.), 1829. "Northwest coast." This South American species has not been confirmed as from North America, and, if found, occurs only as a straggler.

62. *Larus belcheri*, Vig., 1829. "Pacific coast of North America." Though confounded by some with *L. heermanni*, this species is probably limited to South America, and the range of the two species does not meet.

63. *Chroicocephalus atricilla* (Linn.). "Colorado River," Coues, 1868, but not yet obtained on Pacific side north of Cape Saint Lucas.

64. *Sterna antillarum* (Less.). In exactly the same category as the last.

65. *Hydrochelidon nigrum* (Linn.). "Oregon," Towns., 1839; "California," Heermann, 1858. According to Coues (Mon. Laridae), the common American bird is *H. lariformis* (Linn.), so that the *H. nigrum* is not likely to occur, except as a straggler, in the West, where all I have seen were the common kind. [This is probably what Townsend and Heermann meant by "*nigrum*" (Coues). Saunders (Proc. Zoöl. Soc. 1876, p. 642) makes them identical (Lawrence).]

66. *Xema furoatum* (Neboux), 1840. "Coast of California." As this remarkable species has not been confirmed from the West coast, the locality may well be doubted, like too many recorded by the same author. [Recently stated by Salvin to be an inhabitant of the Galapagos (Lawrence).]

67. *Graculus carbo* (Linn.). "Nootka Sound," Nutt., 1834, "Oregon," Towns., 1839. Not confirmed by collections from the West coast, and no doubt confounded with other species.

68. *Sula bassana* (Linn.). "Northwest coast of America," Nutt., 1834.

69. *Sula fiber* (Linn.) = *fusca*, Vieill. "Off coast of California from San Francisco south," Newberry, 1857. The species seen were probably *S. piscator* (Linn.), and *S. cyanops*, Sund., which have been obtained from the West Mexican coast, but not farther north, and I have not seen them along the coast north of lat. 30° during several voyages.

70. *Diomedea chlororhyncha* (Gmel.). "Off the coast of Oregon,"

Towns., 1839, Aud., 1839-44. Audubon's figured type proves to be *D. culminata*, Gould, and was probably obtained too far from our coast to be included in its Avifauna, as none have been found lately alongshore or in sight of land. Townsend does not include it in his list of Oregon birds.

71. *Diomedea fuliginosa*, Gmel., = *D. fusca*, Aud., 1839-44. Included in Townsend's List, but not recently confirmed, and as he does not mention *D. nigripes*, Aud., he may have referred to the type of that species. The South Pacific *D. exulans* and *Daption capense* should also be excluded.

72. *Elatrelata hassitata* (Kuhl). "California," Lawrence, 1853, by error for *Prionitis cinereus* (Gmel.). No record of the former from the Pacific.

73. *Puffinus obscurus* (Gmel.). "Northwest coast of America," Nuttall, 1834. No late record of its occurrence in the Pacific.

74. *Podiceps minor* (Gmel.). "Oregon," Townsend, 1839. Given by Nuttall as North American, but not lately obtained, being a common European species, and confounded by Townsend with either *P. cornutus* or *P. auritus*.

75. *Podiceps dominicus* (Linn.). "California," Gambel, 1847. Probably not obtained north of the Gulf, and not confirmed as living north of lat. 32°.

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#### REMARKS ON *SELASPHORUS ALLENI*, HENSHAW.

BY D. G. ELLIOT.

I HAD commenced an article in reference to the two forms of the *Selasphorus rufus* of authors, as observed in California and Mexico, when the July number of the Bulletin of the Nuttall Ornithological Club reached me, containing an interesting paper by Mr. Henshaw, on the California bird, which he describes as new under the name of *S. allenii*. That there are two well-defined *species*, as the term is usually understood nowadays, I have for a long time been well satisfied in my own mind, and the peculiar shape of the lateral rectrices would seem to be sufficient to establish the specific differences of the two birds. Mr. Henshaw has done good service in pointing these out; but unfortunately he has conferred a new name upon the wrong bird, for it is the southern form that requires to be designated, and not the northern, or to be perhaps more exact, it is the red-backed bird with the broad tail-feathers, and not the green-backed one with the narrow tail-feathers, that is in need of a name.

To prove this it would be necessary to go back in the history of the species, and commence at the beginning. Gmelin seems to be the first author who conferred a Latin name upon the Rufous-throated Hummer, which he did in his "Systema Naturæ" (1788), Vol. I, p. 497, sp. 57, and described it as follows: "Trochilus rufus . . . rostrum pedesque nigri; colli pennæ laterales nonnullæ elongatæ mobiles; tectrices alarum obscure virescentes; rectrices splendide rufæ acuminate, linea media longitudinali et apice nigris; cauda cuneata." Moreover, he gives the habitat as "in sinu Americæ Nootka," and quotes as his synonyms the Ruffed Honey-Sucker of Pennant's "Arctic Zoölogy," Vol. II, p. 290, No. 177, and the Ruff-necked Humming-Bird of Latham's "Synopsis," Vol. II, p. 785, No. 56, t. 35, whose specimen, as Latham informs us, came from Nootka Sound. Now, as it is well known that the southern bird with the broad rectrices has a wide dispersion, going far to the north on the Pacific coast, it might be said, "How are we to know that the specimen from Nootka Sound was not this species, and that it was the one called *alleni* by Mr. Henshaw?" Fortunately this can be satisfactorily determined, and all doubts removed, by turning to the "Fauna Boreali Americana" (Birds), and on page 324 we find that Swainson, in his article on the *Trochilus (Selasphorus) rufus* of Gmelin, makes the following statement: "The discovery of this superb species in the cold and inhospitable regions of Nootka Sound is due to our great navigator, Captain Cook, while to Dr. Latham belongs the honor of first making it known to science. *By a singular chance we have at this moment before us one of the identical specimens, in perfect preservation, collected by the naturalists of that expedition; it was presented by the late Sir Joseph Banks to Mr. Bullock, and was purchased by us at a very high price at the dispersion of that collector's museum by public auction.*" In his description of the form of this bird, he says: "The tail, although short, is more cuneated than rounded, the two middle pairs being longest, *all are narrowed and obtusely pointed at their extremities, but the two outer pairs are particularly narrow.*" It will thus be seen, I think, that the species described by Gmelin from Nootka Sound was, without doubt, the bird with narrow rectrices, as Swainson's specimen was a typical one, if indeed it may not have been the original type; and he was too keen a naturalist not to have noticed the peculiar notch in the rectrices next the median pair, observed in the bird with the broad tail-feathers. He also speaks of the throat as being equally

brilliant with that of *T. moschilus* (!) (which, so far as I have seen, is never the case with the other species), and it has, he says, more of a *red* than an *orange* gloss," and the tints are "exquisitely splendid"; a perfectly accurate description of the California bird, but not of the other, which has the gorget *orange*, and not at all brilliant. To come a little nearer to our own time, we have Audubon, who, in his "Birds of America" (8vo edition, Vol. IV, p. 202), thus describes the *Selasphorus rufus* as he knew it from the specimens collected on the Blue Mountains of the Columbia River and at Nootka Sound by Messrs. Nuttall and Townsend: "Tail rather long, broad, graduated, the lateral feathers four and a half twelfths of an inch shorter than the central; the latter are extremely broad, measuring four and a half twelfths across, and the rest gradually diminish to the lateral, which are *very narrow*, all obtusely pointed." Not a word, it will be noticed, is said of the notch on the first rectrices from the central ones. The throat is also stated to be "splendid fire-red," etc. Baird, in the "Birds of North America" (1860), p. 134, in his description of the *S. rufus*, says that "the tail is strongly cuneate; the outer feather .40 of an inch shorter than the middle, which projects .14 of an inch beyond the rest. *The outer feather is very narrow, not exceeding .11 of an inch in width*; the rest widen and lengthen rapidly to the central one, which is very broad (.35 of an inch); the central feathers are all ovate-acuminate. The entire throat, including a short ruff on the side of the neck (about .40 of an inch long), is *metallic red*, of the same shade as in the Ruby-throat, although with brassy reflections in some lights." Gould, in his "Monograph of the Trochilidae," has apparently confused the two species together, but he makes no mention of the *notched* rectrices, but states they are all of a "broad lanceolate form," and his figures would seem to be taken from the California bird. I might go on and multiply the instances where writers in their descriptions of *S. rufus* have spoken only of the birds with the narrow rectrices, although, as in Mr. Gould's case, they may have had both Californian and Mexican specimens before them, but, regarding them as one species, they have always selected for their descriptions the specimens with the brilliant throats (as being in more perfect plumage, as they supposed), rather than the duller-throated examples, and so these last have escaped receiving a distinctive name, as they deserved. But I think enough has been said to show that authors generally, and the older ones especially,

always described the bird with all the lateral rectrices narrow, and destitute of any notch.

I have not said anything, in comparing the species, about the color of the back, as I consider this is not altogether a satisfactory character by which to distinguish the birds, though Mr. Henshaw makes it one of his principal ones. Latham, in his original description, states that the "crown" was "glossy green," and also that there was a "greenish gloss between the wings." In the first place, the females of both are entirely green in their upper surface, and this is not always pure green, as I have specimens now before me, collected by Boucard at Oaxaca, Mexico, in which the back is a yellowish-bronze, precisely like young males in my collection from California of the other form, collected by Dr. Heermann. Again, I have young males, also collected by Boucard at Oaxaca, which have the back of such a curious reddish-cinnamon that it is difficult to say what color it exactly is; and Mr. Henshaw says, in his article (p. 55), that "in California, however, where the *S. rufus* occurs in its typical condition, that is, with an unmixed rufous back, specimens are not uncommonly found which exhibit a strong approach to the coloration of *S. allenii*"; although, as he farther says, "they never appear to pass beyond a certain point." It is, however, indisputable, that the two species do vary in the amount of green upon their upper surface, and also that at times they approach each other in coloration so nearly that, were there no other differences existing, it would be impossible to separate them. For this reason I do not place much reliance upon the amount of green on the back as a *specific character*. But there are other differences, I think, not mentioned by Mr. Henshaw, to be observed in the females, by which this sex of the two species can be distinguished. The female of the Mexican\* species has the rectrices broad.

In addition to the superior width of its rectrices, the Mexican bird has the lateral tail-feathers, for more than a third of their length in the central portion, jet black, the base light rufous, and the tips white, so that when the tail is closed, and looked at from

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\* I use the terms *Mexican* and *Californian* to designate the birds with broad and narrow rectrices respectively, for the term *rufous* has been so misapplied that I cannot employ it at present without risk of adding to the confusion. At the same time the bird called *allenii* is not restricted to California, as I have already shown, but goes as far north at least as Nootka Sound, and may in winter pass into Lower California, perhaps into Mexico.

beneath, it appears all black, tipped with white. In the other species the rufous of the basal portion is more extended, and the blackish bar narrower, and does not occupy all the space between the tips of the under-coverts and the white tips, at least on the lateral feathers. I do not think that the females have any metallic feathers on the throat; those mentioned as females, with these feathers, being usually young males. These last generally have the median rectrices cinnamon, the tips only being metallic green. As, therefore, it will be necessary to bestow a new name upon the bird with the metallic-orange throat and notched rectrices next to the central pair, the synonymy of the species will stand somewhat as below.

The descriptions are taken from specimens in my collection from California and Mexico respectively.

***Selasphorus rufus.***

*Trochilus rufus*, GMEL., Syst. Nat., Vol. I, p. 497. (1788.)

*Ruff-necked Humming-Bird*, LATH., Gen. Syn., Vol. II, p. 785, pl. 35. (1781.)

*Trochilus (Selasphorus) rufus*, SWAINS., Faun. Bor. Amer., Vol. II, p. 324. (1831.)

*Selasphorus rufus*, AUD., B. Amer., 8vo ed. Vol. IV, p. 200. BAIRD, B. Amer. (1860), p. 134. GOULD, Mon. Troch., Vol. III, pl. 137 (partim).

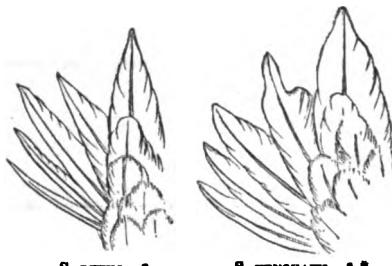
*Selasphorus ruber*, BON., Conspect. Gen. Av., p. 82.

*Ornithomya soisin*, LESS., Hist. Nat. Ois. Monch., p. 190, pls. 66, 67.

*Selasphorus alleni*, HENSHAW, Bull. Nutt. Ornith. Club, Vol. II, p. 54 (1877).

*Habitat.* In summer the Pacific coast of America from California to Nootka Sound. In winter — ?

*Male.* Top of head and back bronzy-green, dullest on the forehead. Sides of the head, rump, flank, abdomen, and under tail-coverts rufous. A gorget of metallic feathers, covering all the throat and extending on to the sides of the neck, brilliant coppery-red, with brassy reflections in certain lights. Upper part of breast white. Wings purplish-brown. Tail short, cuneate,



\* Figures reprinted from Mr. Henshaw's article (this volume, p. 53), with change of names.

all the feathers acutely pointed. Median rectrices rather broad, lateral ones narrowing rapidly to the outermost, which is extremely narrow. Bill straight, black.

*Female.* Above entirely green, with a slight cinnamon shade on the rump. Under surface grayish-white, with a slight brownish tinge on the breast. Tail-feathers rufous at base, then a narrow subterminal bar of violaceous-black, and tipped with white.

The next species I propose to call

***Selasphorus henshawi.***

*Trochilus rufus*, HENSHAW, Bull. Nutt. Ornith. Club, Vol. II, p. 53 (1877).

*Habitat.* Mexico, northward along the Pacific coast to Sitka.

*Male.* Top of the head metallic-green, rest of upper parts cinnamon, but some specimens have green feathers intermixed with the rufous on the back. Throat metallic-orange, not brilliant as in the other species. Breast, and the centre of the abdomen, white; flanks and under tail-coverts rufous. Tail rufous, tipped with dark brown; feathers pointed at tip, median pair broad, lateral ones growing narrower to the outermost, which is the most attenuated. *On the inner web near the tip of the rectrices next the central pair is a conspicuous well-developed notch.* Bill black. Total length,  $3\frac{1}{2}$  inches; wing,  $1\frac{1}{2}$ ; tail,  $1\frac{1}{2}$ ; culmen,  $\frac{1}{8}$ .

*Female.* Entire upper parts shining grass-green, dullest on the crown. Throat white, spotted with brown. Under parts white; washed with rufous on the breast and flanks. Under tail-coverts buff. Median rectrices green; lateral ones rufous at base, then a band of metallic-green, succeeded by a subterminal broad black bar, and tips white. Bill black. Length,  $3\frac{1}{2}$  inches; wing,  $1\frac{1}{8}$ ; tail,  $1\frac{1}{2}$ ; culmen,  $\frac{1}{8}$ . Young males similar to the females, with a few metallic spots on the throat.

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**THE YELLOW-THROATED WARBLER (*DENDRŒCA DOMINICA*).**

BY WILLIAM BREWSTER.

IT is indeed surprising that a bird so generally distributed throughout the Southern States as the above-named species should be so little known. In "History of North American Birds" (Vol. I, p. 241), Dr. Brewer prefaces his account of its habits by the remark that its history "is very imperfectly known," and then proceeds to draw upon the meagre and conflicting descriptions given by Wilson, Audubon, and Nuttall. Although I cannot myself claim an ac-

quaintance of very long standing with this beautiful little species, still for five or six weeks during the past spring scarcely a day passed that I did not see one or more individuals. I first met with them at Mellonville, Florida, where, on March 14, I shot two specimens, both females, in the pine woods near the town. They were associated with Pine Warblers, Nuthatches, and Woodpeckers. During a trip up the Wekiva River, March 19 to 23 inclusive, I heard at frequent intervals a Warbler that I did not recognize singing in the cypresses, but from the impenetrable nature of the swamps, and the great height of the trees, I was unable to get even a glimpse of the bird. A week later, while descending the St. John's River by steamer, I again constantly heard, both from the cypress swamps and the open piny woods, the notes of this, to me, unknown species, and although I felt almost certain of its identity, it was not until I reached St. Mary's, Georgia, that I proved to my satisfaction that my suspicions were correct. There, from the 6th of April to the 4th of May, I enjoyed abundant opportunities of studying its habits, for it was everywhere, in suitable localities, if not one of the most abundant, at least a generally distributed species. At the time of my arrival the males were in full song and mating. A few individuals haunted the moss-hung live-oaks that shaded the village streets, but the open piny woods were their favorite abode. There, with the Summer Redbird (*Pyranga aestiva*), the Pine Warbler (*Dendroica pinus*), the Brown-headed Nuthatch (*Sitta pusilla*), and a variety of Woodpeckers, they frequented the beautiful Southern pines. Indeed, so great was their attachment to this tree that, with the exception of those heard in the cypress swamps of the Upper St. John's, and the few that inhabited the oaks in the town, I do not remember to have seen one in any other tree. So marked and unvarying was this preference, that on more than one occasion I made use of the notes of this bird to guide me out of some bewildering thicket, feeling sure that beyond where it was singing I should find the more open pine-clad country.

Nearly all the authors who have written on the Yellow-throated Warbler from personal observation compare his movements along the branches to those of the Black-and-white Creeper (*Mniotilla varia*). At first I was inclined to the same opinion, but after my eagerness to secure specimens had somewhat abated, through success in collecting them, I felt more at leisure to watch the pretty little birds before taking their innocent lives, and, having spent many hours in

carefully studying their habits, I became convinced of the error of my earlier impressions. Their movements are much slower than those of the *Mniotilla*, and there is less of that crouching, creeping motion. They do, indeed, spend much of their time searching the larger branches for food, but it is much more in the manner of the Pine Warbler, and their motion is rather a hopping than a creeping one. I have never seen them ascend the trees from the roots to the top-most branches, as Audubon relates, but I occasionally observed one clinging against the main trunk for a moment, to seize an insect, as will the Bluebird (*Sialia sialis*) and many of the Warblers. Their hunting-ground is for the most part, however, among the higher branches, and a considerable part of their time is spent at the extremities of the limbs, searching for food among the pine needles. Their bright yellow throats, brought out by contrast with the dark evergreen foliage, give them a certain resemblance to the Blackburnian Warbler (*Dendroica blackburniae*). The males are not very persistent singers. I rarely heard them during the warm hours of the day, even when pairing was almost their sole occupation. Their song is very pretty; it may be nearly imitated by the syllables *Tweee-tweee-tweee, tweee-see*, the last two rising and terminating abruptly. It most nearly resembles that of the Nashville Warbler (*Helminthophaga ruficapilla*), beginning in almost the same way, but ending differently, and, indeed, throughout the notes are much sweeter. Both sexes utter a chirp similar to that of other Warblers, but sharper.

By the middle of April there was a marked decrease in the number of Yellow-throated Warblers about St. Mary's. This was partly owing to my having shot many for specimens, but not entirely to this, for extended researches over new ground convinced me that the greater number had passed on, probably to the northward. A few, however, still remained; perhaps on an average one pair to every hundred acres of pine forest. While collecting near St. Mary's, April 18, I was in the act of shooting a female when I noticed that she was gathering material for building, and, tracing her flight, I was fortunate enough to discover her half-completed nest. Visiting the spot at frequent intervals, I invariably found both birds feeding among the pines in the vicinity, although the nest, as far as I could judge, seemed finished. At length, May 2, a friend, ascending the tree, found the female sitting. She remained on the nest until he nearly touched it, although the limb shook

violently under his weight. When she did finally leave it she sailed down into a smaller tree a few rods off, where she remained a silent and seemingly unconcerned spectator of what followed. The nest and its contents being safely lowered to the ground, I shot both the female and her mate. The latter was singing, as usual, a short distance off, and apparently took no more interest than the female in the destruction of their mutual hopes. Embryos of small size had already formed in the eggs, so that incubation must have begun three or four days previously. This nest was placed at the height of about thirty-five feet from the ground, on the stout horizontal branch of a Southern pine, one of a thinly scattered grove or belt that stretched along the edge of a densely wooded hummock. It was set flatly on the limb, — not saddled to it, — nearly midway between the juncture with the main trunk and the extremity of the twigs, and was attached to the rough bark by silky fibres. It is composed externally of a few short twigs and strips of bark bound together by Spanish moss (*Tillandsia usneoides*) and a silky down from plants. The lining consists of a few hair-like filaments of moss and soft cottony vegetable down. The whole structure is neatly and firmly compacted, though essentially simple in appearance, and, from the nature of the component materials, of a grayish inconspicuous color. In size, shape, and general formation it very nearly resembles nests of the Black-throated Green Warbler (*Dendroica virens*) in my collection. It measures externally 2.80 inches in diameter by 1.70 in depth; internally, 1.77 inches in diameter by 1.30 in depth. The eggs, four in number, measure .69 by .53 of an inch. They are quite regularly ovate, with fine dottings of pale lilac scattered thinly and evenly over a grayish-white ground-color. A few spots or blotches of burnt sienna occur about the large ends, while occasional irregular penlike lines of dark brown diversify the remaining surface.

Upon referring to published accounts of the nesting of this Warbler, I find the statements by the different authors most conflicting, and the authenticity of many of the specimens open to gravest doubt. Both Mr. Maynard (in "Birds of Florida," Part II, page 61) and Dr. Coues ("Birds of the Northwest," page 67) base their descriptions upon alleged specimens sent to the Smithsonian Institution by Mr. Norwood C. Giles, of Wilmington, N. C. Dr. Brewer refers to these specimens as "eggs supposed to be of this species," and Dr. Coues describes the nest as "built in a large mass

of Spanish moss," and as "composed chiefly of that material. A part of the moss which hung from an oak bough, two feet downward and a foot across, was caught up and closely woven together with a little fibrous substance and much plant-down, to form a swinging bed for the nest, with a lateral entrance which will admit the hand. Inside is the nest proper, of the usual dimensions, very neatly wrought of the moss, with a smooth even border, and lined with plant-down and a few fine grasses." From the great difference in the position and structure of the nest, there seems little reason to doubt that Mr. Giles was mistaken in his identification. Nuttall's account of "its curious fabric, suspended to a kind of rope which hangs from tree to tree," is manifestly fabulous, while Audubon's description is, to say the least, very vague and unsatisfactory, though, as far as it goes, it certainly most nearly approximates to the specimen before me.

From the number of individuals I saw near Savannah, Ga., May 5 (I heard in Bonaventure Cemetery four different males singing at one time), I am led to believe that the Yellow-throated Warbler breeds more abundantly in Northern Georgia (and perhaps in South and North Carolina) than farther south.

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### Recent Literature.

D'HAMONVILLE'S ENUMERATION OF THE BIRDS OF EUROPE.\* — The writer is indebted to his friend and correspondent, Baron D'Hamonville, for a copy of his recent Catalogue of the Birds of Europe, which deserves more than a mere mention on account of the admirably comprehensive manner in which it has been prepared. While it enumerates every form that has been claimed to have been taken within the limits of Europe, it is careful to designate in a significant manner the writer's mode of dissent. Thus, names believed to have no specific significance, or to represent a race rather than a species, are marked with a Greek minuscule; those whose presence is questioned are given with an interrogation sign, and those whose occurrence is exceptional are also designated. Thus divided, the Baron makes the whole number 658, as follows: —

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\* Catalogue des Oiseaux d'Europe, ou énumération des espèces et races d'oiseaux dont la présence, soit habituelle soit fortuite, a été déjûment constatée dans les limites géographiques de l'Europe, par J. C. L. T. D'Hamonville. 8vo. pp. 74. Paris: 1876.

Species resident or of regular migration . . . . .	425
Species of fortuitous occurrence . . . . .	156
Species whose capture in Europe is disputed . . . . .	22
European races . . . . .	55
	658

The number of accidental visitors is surprisingly large, being about one fourth of the whole Catalogue, and is very nearly equally divided between Africa, Asia, and North America. These do not include those whose presence is disputed, though the number of the latter should probably be enlarged. Thus *Haliaëtus leucocephalus* is accepted without dispute, though its right to be included is generally questioned.

Appended is a list of the portion of the visitors to Europe from North America, with the region where taken:—

<i>Nauclerus furcatus</i> , England.	<i>Tringa bonapartei</i> , England and France.
<i>Accipiter atricapillus</i> , Scotland.	<i>Tringa pusilla</i> , England.
<i>Scops asio</i> , England.	<i>Tryngites rufescens</i> , England, France, Heligoland.
<i>Picus villosum</i> , England.	<i>Gambela flavipes</i> , England.
<i>Picus pubescens</i> , England.	<i>Rhyarophilus solitarius</i> , Scotland.
<i>Coccyzus americanus</i> , England.	<i>Actitis macularia</i> , Western Europe.
<i>Coccycus erythrophthalmus</i> , Italy (Lucca).	<i>Bartramia longicauda</i> , Central Europe.
<i>Alcedo alcyan</i> , Ireland.	<i>Sympremia semipalmata</i> , Sweden, France.
<i>Agelaius phoeniceus</i> , England.	<i>Botaurus lentiginosus</i> , Germany, England.
<i>Loxia leucoptera</i> , England.	<i>Puffinus obscurus</i> , France, England.
<i>Anthus ludovicianus</i> , Heligoland.	<i>Puffinus fuliginosus</i> , France, England.
<i>Turdus fuscater</i> , Pomerania.	<i>Thalassidroma leucomelas</i> , Western Europe.
<i>Turdus pallasi</i> , Switzerland.	<i>Chroicocephalus atricilla</i> , France, England.
<i>Turdus swainsoni</i> (not given).	<i>Chroicocephalus philadelphia</i> , England.
<i>Harporkynchus rufus</i> , Heligoland.	<i>Xema sabini</i> , Northern Europe.
<i>Regulus calendula</i> , England.	<i>Mareca americana</i> , England.
<i>Dendraca virens</i> , Heligoland.	<i>Querquedula discors</i> , France.
<i>Progne purpurea</i> , England.	<i>Aix sponsa</i> , England, France, Germany.
<i>Hirundo bicolor</i> , England.	<i>Fulix collaris</i> , England.
<i>Ectopistes migratorius</i> , Russia, Norway, England.	<i>Fulix affinis</i> , England.
<i>Charadrius virginicus</i> , Heligoland.	<i>Clangula albola</i> , England.
<i>Charadrius fulvus</i> , Malta.	<i>Edemias perspicillata</i> , Western Europe.
<i>Ægialitis vocifera</i> , England.	<i>Mergus cucullatus</i> , France, England.
<i>Numenius hudsonicus</i> , Iceland, England.	<i>Uria columba</i> , Greece (Von Heuglin).
<i>Numenius borealis</i> , Scotland.	<i>Simorhynchus psittaculus</i> , Sweden.
<i>Macrorhamphus griseus</i> , Northern Europe.	
<i>Tringa maculata</i> , England.	T. M. B.

#### MERRIAM'S "REVIEW OF THE BIRDS OF CONNECTICUT."\* — Through

\* A Review of the Birds of Connecticut, with Remarks on their Habits. By C. Hart Merriam. Transactions of the Connecticut Academy, Vol. IV, pp. —, 1877.

the kindness of the author we have received advance sheets of the above-cited paper, shortly to be issued under the auspices of the Connecticut Academy, as the first of a proposed series on the Fauna of that State. Since the appearance of Linsley's "Catalogue of the Birds of Connecticut" in 1843, no detailed enumeration of the birds of that State has been published. Hence the advent of Mr. Merriam's paper must be hailed with interest by all engaged in the study of New England Ornithology. The author gives in all two hundred and ninety-two species. Of these he arranges under special lists in tabular form, one hundred and thirty-five as "summer residents"; twenty which probably breed occasionally, but are not known to do so; forty-one resident species; ninety migrants; sixty-seven winter visitants; thirty-one irregular summer visitants; forty-six rare accidental visitants; and nineteen rare and irregular visitants. Following these is a tabulated analysis of Linsley's Catalogue, in which he eliminates sixty-three species given by that author on apparently insufficient authority, though many of these are afterwards included by Mr. Merriam upon more recent and tangible evidence. The Avifauna of Connecticut, though essentially Alleghanian in character, has been long known to embrace many Carolinian forms, but the relative extent of this "tinge," geographically as well as specifically, has been considerably developed by Mr. Merriam's careful researches. Thus, upon unimpeachable authority are given as birds of Connecticut, *Dendræca dominica*, *Lophophanes bicolor*, *Oporornis formosus*, *Cardinalis virginianus*, *Empidonax acadicus*, and *Centurus carolinus*, while, singularly enough, several species known only in the more northern New England States as spring and fall migrants have been found breeding. In the careful elaboration of interesting details culled from personal experience and the note-books of well-known and trustworthy field collectors, this paper is most rich. Indeed, if we may be permitted to qualify otherwise undiluted praise by a little censure, we should say that a judicious summarizing of data and incident would divest this paper of a great deal of unnecessary cumbervousness. Still, it is perhaps better to err in this direction than in the other and too common one, and Mr. Merriam certainly deserves much credit for his arduous labors. — W. B.

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### General Notes.

NOTE ON *DORICHA ENICURA* (*Vieill.*). — About two years ago Mr. H. W. Henshaw submitted some birds to me for determination, among which was the female of a species of Humming-Bird obtained by him in Arizona, which I considered to be *Doricha enicura*, and it is so recorded in United States Geographical Survey W. of 100th Meridian, Vol. V, Chap. III. On a re-examination lately made, I find it was not properly referred, and a comparison with the female of *Culothorax lucifer* (Sw.) shows it to be that

species, which must now be included in our Fauna in place of *D. enicura*. At the time of my first examination I had no specimen of the female of *C. lucifer*, and was misled by the general similarity of coloring of the two species, especially the distribution of colors in the tail, both having it rufous at base, black in the middle, and white at the end; *D. enicura* has the tail-feathers narrower, and the rufous on their bases rather more in extent. The females of *Calothorax pulchra* and of *Myrtis fanniae* closely resemble the same sex of the species spoken of above in general plumage, and in having their tails of the same pattern of coloration. In many allied forms among the *Trochilidae*, the females resemble each other so much that a satisfactory determination of them is quite difficult, except with authentic examples of the different species to compare with. — GEO. N. LAWRENCE, *New York City.*

**' OCCURRENCE OF THE BLACK VULTURE OR CARRION CROW IN OHIO.** — On or about December 20, 1876, I came upon three individuals of this species (*Cathartes atratus*, Less.), feeding on the carcass of a hog, in a wooded ravine near Madisonville; one of them I shot at and wounded, but lost sight of it in the woods, and the other two remained in the immediate vicinity long enough to give me an excellent opportunity to observe their peculiarities of form and flight, although I could not approach within gunshot of them. On January 1, 1877, however, I found a specimen that had been killed a few days previous, in the same locality, by Mr. Edwin Leonard, of Madisonville, under circumstances rendering it probable that it was the one I had wounded; its skin is now in my collection.

The occurrence of this bird in Ohio, or in fact anywhere in the Mississippi Valley *north* of the Ohio River, has heretofore rested solely on Audubon's account of its range, which has been quoted by all subsequent writers; and, being essentially a southern species, its capture here, at a time when the Ohio River was frozen over and the ground covered with several inches of snow, seems worthy of remark. I have identified this species here satisfactorily to myself, on two previous occasions, *both in winter*, but have never seen the "Turkey Buzzard" (*C. aura*) at that season, although it is quite common during the summer. — FRANK W. LANGDON.

**OCCURRENCE OF THE WESTERN NONPAREIL AND BERLANDIER'S WREN AT FORT BROWN, TEXAS.** — Dr. J. C. Merrill, U. S. A., in a recent letter to the writer, says: "I have recently (April 23 and 24, 1877) taken two fine males of *Cyanospiza versicolor*, a bird new to our Fauna, although included in Baird, Brewer, and Ridgway's 'History of North American Birds.' I have also heard and seen several others. They frequent mesquite chaparral, and betray themselves by their notes, which somewhat resemble those of *C. cyanea*. Berlandier's Wren (*Thryothorus ludovicianus* var. *berlandieri*), also new, but included in Baird, Brewer, and Ridgway's work, I find to be a rather common visitant." Dr. Merrill also states that

he had just found a beautiful nest of *Spermophila moreleti*, which proves to be a rather abundant species. — J. A. ALLEN, Cambridge, Mass.

A CUCKOO'S EGG IN A CEDAR-BIRD'S NEST. — On July 19, 1874, while collecting in a piece of swampy second growth about four miles from Utica, N. Y., I discovered a nest in a small sapling about eight feet from the ground, which, on examination, I found to contain four eggs of the Cedar-Bird (*Ampelis cedrorum*), and one egg of the Cuckoo. From the damp situation, from the appearance of the egg itself, and from the fact of my having found the nest of that bird in the same piece of wood the previous year (1873), I am led to believe it was that of the Black-billed species (*Coccyzus erythrophthalmus*). The nest was deserted and apparently had been for some time, as all the eggs were addled, nor could I see that incubation had begun; certainly it had not in the Cuckoo's egg. I can find no mention in print, nor have I ever before heard, of such a case. — EGBERT BAGG, JR., Utica, N. Y.

[The laying of our American Cuckoos in the nests of other birds is doubtless not so rare an occurrence as has been supposed. Two instances have been observed recently in this immediate vicinity, and I have heard of others. Mr. A. M. Frazar, of Watertown, Mass., informs me of one instance where the Yellow-billed Cuckoo (*Coccyzus americanus*) deposited an egg in a Robin's nest, and another case of the laying of the same species in the nest of a Wood Thrush. In the March number of the "Oölogist" (Vol. III, p. 3, published at Utica, N. Y.) an anonymous writer records (since Mr. Bagg's note was received for publication) the finding of two eggs of the "Cuckoo" (species not given) in the nest of a "Redbird" at Gambier, Ohio. — J. A. ALLEN.]

OCCURRENCE FOR THE FIRST TIME IN ENGLAND OF THE ROBIN (*Turdus migratorius*). — Mr. J. E. Harting records the first occurrence in England of this species in an article in "The Field" (published in London, Eng.), of December 23, 1876, and also in the "Zoölogist" for January, of which paper he is editor. The bird was taken alive, owing to its exhausted state, when reaching land at Dover, during April or May.

Mr. Harting is a well-known authority on stragglers, having published in 1872 a Handbook of British Birds, in which was recorded 212 specimens of American birds, belonging to 42 different species. Since that time some of these have been discredited, and others added, until at the present time the list embraces 220 instances of the occasional appearance in Great Britain of North American birds. Of the species referred to in this list, there are five birds of prey, fourteen *Passeres* and *Picarie*, one *Columba*, fourteen *Grallatores*, and eight *Natatores*. The prevailing winds of the Atlantic being westerly probably accounts for the greater abundance of American stragglers in Europe than the contrary. — H. B. BAILEY, Orange, N. J.

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# BULLETIN

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BULLETIN  
OF THE  
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*A QUARTERLY JOURNAL OF ORNITHOLOGY.*

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BULLETIN  
OF THE  
**Nuttall Ornithological Club:**  
A Quarterly Journal of Ornithology.

ANNOUNCEMENT FOR 1878.

The present number brings to a close Volume II of the Bulletin. With the beginning of Volume III, it has been decided to increase the number of pages in each issue from 24 to 48, and to raise the subscription price to \$2.00. The present size of the magazine having proved to be far too small to afford space for all of the valuable matter contributed to its pages, its enlargement has become necessary; and we trust that the advance in price, accompanied as it is with a corresponding addition of matter, will deter none of our present subscribers from promptly renewing their subscriptions, and that they will, as heretofore, use their influence to extend its circulation. The gradual increase of our subscription-list during the past year, together with the large amount of matter offered for publication, shows plainly that the BULLETIN meets a long-felt want, and leads us to hope that its permanence as an Ornithological Magazine is assured. The favor with which this periodical has thus far been received leads us to believe that during the coming year it will be possible to further increase its size without additional cost to subscribers.

It will be continued under the same editorial management as heretofore, and the aim will be to keep it at such a standard of excellence as to make it indispensable not only to every working ornithologist, but to every one interested in the progress of American Ornithology. A special feature of Volume III will be an exhaustive *r  sum  * of the current literature relating to North American Ornithology, wherever appearing.

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VOLUME III.

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Editor,

J. A. ALLEN.

Associate Editors,

S. F. BAIRD AND ELLIOTT COUES.

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# VALLEY



BULLETIN  
OF THE  
NUTTALL ORNITHOLOGICAL CLUB.

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Vol. III.

JANUARY, 1878.

No. 1.

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NOTE ON *PASSERCULUS BAIRDI* AND *P. PRINCEPS*.

BY DR. ELLIOTT COUES, U. S. A.

THE Nuttall Ornithological Club gratefully acknowledges the liberality of Messrs. T. Sinclair and Son, the well-known lithographers, of Philadelphia, through which the opening number of the third volume of the Bulletin is illustrated with a fine colored plate of Baird's Bunting. The figure was drawn under my direction by Mr. Edwin L. Sheppard of Philadelphia, and represents the adult male as I have often observed it singing during the breeding season. The plate was engraved and printed in colors by the Messrs. Sinclair, in the interests of science, and the whole edition was generously presented by them to the Club.

No full-length colored figure of this species has hitherto been published since Audubon's original, which was taken from a specimen in worn plumage, as the type now preserved in the Smithsonian attests, and is far less characteristic than the Sinclair plate. The colored head in Baird, Brewer, and Ridgway, as well as the wood-cuts on page 531 of their work below cited, were all from that same specimen. In fact, no second specimen was known until 1872, when Mr. C. E. Aiken took, in El Paso County, Colorado, a young bird, which was soon after described as a new species, *Centronyx ochrocephalus*. The following year he obtained another; and during the summer of that year great numbers were taken in Dakota by Mr. J. A. Allen and myself, and also in Arizona by Mr. H. W. Henshaw. Since that time the species has been well known and illustrated by an abundance of specimens.

There is no occasion here to enter into its history, as all that is known is already published in the works below cited,—the more complete notices being those in the "Birds of the Northwest" and the "History of North American Birds," especially in the Appendix of Vol. III. of the latter.

At one time it was thought that Baird's Bunting had been found in Massachusetts. The error was not rectified until several notices to such effect, including Mr. Maynard's full account, and his plate of the supposed Massachusetts "*Centronyx*," had appeared. Mr. Maynard made the correction in 1872, when the New England bird was named *Passerculus princeps*.

The complete synonymy of the two species, and their nearly entire bibliography, are as follows:—

***Passerculus bairdi*.**

*Emberiza bairdii*, AUD., B. Amer. 8vo. ed. vii, 1843, 359, pl. 500 (orig. description. Fort Union, Dak.).—BAIRD, Stansbury's Rep. Great Salt Lake, 1852, 330 (mere quotation).

*Coturniculus bairdii*, Bp., Conspl. Av. i, 1850, 481 (mere quotation).

*Centronyx bairdii*, BD., B. N. A. 1858, 441 (type of the genus. Species redescribed from the type specimen). (Not of any authors referring to the supposed appearance of the bird in New England.)—COUES, Key, 1872, 135 (compiled description).—AIKEN, Am. Nat. vii, 1873, 236 (comparison with the new *C. ochrocephalus* from Colorado).—RIDGW., Bull. Essex Inst. v, 1873, 182 and 190 (Colorado; critical reference to Aiken's specimens, which had been named *C. ochrocephalus*).—COUES, Am. Nat. vii, 1873, 695 (rediscovery in abundance in Dakota; history and criticism).—HENSHAW, Am. Nat. viii, 1874, 241 (Arizona).—ALLEN, Pr. Bost. Soc. xvii, 1874, 57 (Dakota; nest and eggs).—COUES, B. N. W. 1874, 125 (synonymy, redescription, general history and habits).—HENSHAW, Rep. Ornith. Specs. 1874, 110 (New Mexico and Arizona, abundant).—HENSHAW, Rep. Expl. W. 100 merid. Vol. v, Zoölogy, "1875" = 1876, 253 (same).—BD., BREW., and RIDGW., Hist. N. A. B. i, 1874, 531, figs. pl. 25, f. 3; iii, 1874, 510 (general account, wood-cuts, and colored plate of head).—HENSHAW, List B. Arizona, 1875, 158.

*Emberiza (Centronyx) bairdii*, GRAY, Hand-list, ii, 1870, 116, No. 7733.

*Ammodromus bairdi*, GIEBEL, Nomencl. Av. i, 187—, 328.

*Passerculus bairdii*, COUES, Am. Nat. vii, 1873, 697.

*Passerculus bairdi*, McCauley, Bull. U. S. Geol. Surv. iii, No. 3, 1877, 663 (Cañoncito Texas; nesting).

*Centronyx ochrocephalus*, "AIKEN" [Ridgway], Am. Nat. vii, 1873, 237 (El Paso, Colorado, autumnal specimens described as new species.—See Scott, ibid. 564; Coues, ibid. 696; Ridgw. Bull. Essex Inst. v, 1873, 190).

*Passerulus princeps*.

*Centronyx bairdii*, ALLEN, Am. Nat. iii, 1869, 513 (original notice of supposed occurrence of *P. bairdi* in Massachusetts, the actual reference being to *P. princeps*). — MAYN., Am. Nat. iii, 1869, 554 (next notice of the same). — ALLEN, Am. Nat. iii, 1869, 631 (third notice of the same). — MAYN., Nat. Guide, 1870, 113, frontisp. (fourth notice of the same). — BREWST., Am. Nat. vi, 1872, 307 (fifth notice of the same, and of additional specimens).

*Passerulus princeps*, MAYN., Am. vi, 1872, 637 (explanation of the error, and the supposed "*C. bairdii*" from Ipswich, Mass. named *P. princeps*). — COUES, Key, 1872, App. 352. — COUES, Am. Nat. vii, 1873, 696. — BD., BREW., and RIDGW., Hist. N. A. B. i, 1874, 540, pl. 25, f. 2. — BREWER, Pr. Bost. Soc. xvii, 1875, 441. — BREWST., Bull. Nuttall Club, i, 1876, 52 (New Brunswick). — MERRIAM, Bull. Nuttall Club, i, 1876, 52 (Connecticut). — BROWN, Bull. Nuttall Club, ii, 1877, 27 (New Hampshire). — BAILEY, Bull. Nuttall Club, ii, 1877, 78 (Coney Island, N. Y.). — MINOT, Birds New Engl. 1877, 195 (general account). — MAYNARD, Nat. Guide, 2d Ed. 1877 (colored plate ; text rewritten).

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ON THE SPECIES OF THE GENUS *PASSERELLA*.

BY H. W. HENSHAW.

THE genus *Passerella* was instituted by Swainson in 1837 to receive the only species known at that time to him, the *Fringilla iliaca* of Merrem and of the early authors generally. The Aonala-shka Bunting, doubtfully the *P. townsendi* of recent authors, was named by Gmelin, in 1788, constituting his *Fringilla unalaskensis*. In the uncertainty respecting Gmelin's bird, his description applying equally well to the *Melospiza insignis*, the *townsendi* of Audubon, named in 1838, has been accepted by most ornithologists. The genus, with its two species, thus remained till 1858, when Professor Baird described the *P. schistacea* from the interior, and at the same time noticed a closely allied form from California with larger bill, for which he proposed the name *megarhyncha*. These four "species," as they have sometimes been called, or forms, make up a very interesting as well as puzzling group, as shown by the doubtful manner in which they have been treated by various writers,

more than one having strongly hinted at the probable specific identity of the four, while the methods in which they have been combined have been nearly as various as the number of authors who have had occasion to notice them.

While the very close relationship existing between the two more recently discovered forms (*schistacea* and *megarhyncha*) has usually been recognized, from the occurrence of intermediate or doubtful specimens, the tendency has been strong to keep separate the two earlier described birds, mainly because no specimens with clearly intermediate characteristics have been recognized. Having had the very unusual opportunity of studying in the field the four forms in question, as well as of examining a very large series of specimens in the Smithsonian collection, many of which were collected by myself in connection with the United States Geographical Surveys west of the 100th Meridian, the conclusion seems to me to be unavoidable that the four forms are but modifications of a single species, brought about through the agency of the laws of Geographical Variation.

Considering first in their relations to each other the *P. schistacea* and *P. megarhyncha*, the first from the northern interior region, the latter from the Southern Sierras, we find that, though very distinct from each other when extreme samples of either form are selected, they yet in the full series before me grade directly together, both in color and general size. Taking examples of *megarhyncha* from the southern Coast Range of California, which may be considered as the true home of the variety, that is, where its peculiarities attain their greatest development, we find them in their enormously developed bills and excessively lengthened tails, as well as darkened colors, to present such a totally different aspect that to liken them to *schistacea* seems almost absurd. Changing, however, our point of observation to the eastern slope of the Sierras, about Lake Tahoe, which is a region approaching somewhat closely the home of *schistacea*, we find that the *Passerellas*, though readily referable to *megarhyncha*, present very appreciable differences from those from the region just noted, and furthermore, that the variation is directly towards the *schistacea* type. The bills in specimens from the eastern slope are invariably and very decidedly smaller than in examples from Fort Tejon and that vicinity, though still much thickened when compared with specimens from the interior (*schistacea*). The color of the under

mandible in typical *megarhyncha* is of a quite characteristic bluish-white, but in these specimens it is of a decidedly yellowish cast,\* very much as seen in *schistacea*. A similar tendency in them to approach the light ashy coloration of *schistacea* is also to be noted. By means of these and other specimens we have no difficulty in forming a very complete chain from the one extreme to the other, and hence we consider the two are to be distinguished only variably, whatever may be their relations to the others.

Of *megarhyncha* it is to be said that the individual variation is very great, being much more marked than in any of the three others. Though in its extreme condition it is certainly one of the most, perhaps the most, noteworthy of the four birds, its characters are so very inconstant that unless taken from the same locality it is not easy to find two specimens that exactly agree, the variation being especially well marked as to size. In a series even from the same neighborhood the variation is apt to be very considerable, more so, I think, than is the case with any other bird I am acquainted with. As this variety is probably a resident, at least in much of the region inhabited by it, it is not easy to understand this tendency in individuals to vary to so great an extent. On the other hand, its claim to similar recognition as the others is seen in the fact that its habitat is distinctly marked from that of its congeners, and that within its own area no specimens occur which are not sufficiently characteristic to be readily referable to it. As to the relative size of wing and tail in the two forms, the individual variation is never sufficient to alter the proportion, the tail being always in excess of wing.

Leaving now, for the moment, the two forms (*schistacea* and *megarhyncha*) just considered, and taking up the two remaining members of the group (*iliaca* and *townsendi*), we note, first, that their habitats are, in the extreme northwest, in close relation,—*iliaca* being one of the several eastern birds that in the far north span the continent, and reach the Pacific Ocean in Alaska. *Townsendi* is a Pacific-slope form, being found in its typical condition from the Columbia River region north to Sitka, Kodiak, etc. Whether the habitats of the two actually join is not at present

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\* Mr. Ridgway informs me that specimens collected by him in this vicinity in spring show no trace of yellow, but have the typically bluish-white under mandible.

known with certainty. It seems probable that they do, and certain specimens, now to be noted, suggest in their intermediate characters such a union of the respective regions. These are comprised in a series of sixteen specimens collected in California by myself during the fall of 1875. While these are all referable to *townsendi*, not one is typically like that bird, as its characters are illustrated by many examples in the Smithsonian from Sitka, Kodiak, and the contiguous regions. The variation inclines from a quite near approach to the dark olive-brown of *townsendi*, with its un-streaked dorsum, to a shade approaching suspiciously close to the ferruginous color of *iliaca*; these latter individuals show appreciable though obsolete streakings on the back, and may be fairly compared with the latter bird. In this connection a single specimen in the Smithsonian Collection from California is very interesting, since it was named "*iliaca*" by Mr. Ridgway, and thought to be a straggler of this species. On the strength of this specimen, Dr. Coues, in his "Birds of the Northwest," gives *iliaca* as "accidental in California." In the light of the series now at hand the specimen in question assumes a new significance, and is seen to exhibit but a somewhat nearer approach to *iliaca* than the extreme of the above suite; with them it is to be considered as indicating the intermediate condition of color between the two, and hence of their intergradation.

If the same test be applied to *schistacea* and *townsendi* it results, without going into unnecessary details, in the same way. Their complete inosculation as to color may readily be proven. A series of measurements to illustrate the relation in size of the four forms gives the average of the parts as follows. Space forbids our giving full tables of measurements, as would have been desirable.

*P. iliaca*. Average of ten specimens from Eastern United States, Alaska, etc. : wing, 3.40 ; tail, 3.07 ; bill, .32 ; tarsus, .93.

*P. townsendi*. Average of twenty-three specimens : wing, 3.20 ; tail, 3.15 ; bill, .49 ; tarsus, .94.

*P. schistacea*. Average of nine specimens : wing, 3.13 ; tail, 3.37 ; bill, .44 ; tarsus, .91.

*P. megarhyncha*. Average of eight specimens : wing, 3.21 ; tail, 3.58 ; bill, .51 ; tarsus, .93.

As will be seen from the above-given average measurements, *iliaca* and *townsendi* agree in having the wing longer than (in some

specimens of *townsendi* equalling) the tail; while in *schistacea* and *townsendi* the tail is very considerably in excess of the wing. The importance which I was at first disposed to attach to these different proportions was somewhat modified upon ascertaining that in respect to proportion of these parts *townsendi*, with its wing nearly equal to tail, evidently marked the first step towards *schistacea*, in which the tail becomes the longer, a tendency carried still further in *megarhyncha*.

One curious and to me unexpected fact brought out by these measurements is that, not only does the tail become longer in the three western varieties, — a variation well shown in other species whose habitat extends from the eastern into the western province, — but also the wing is found to be *actually shorter*; so that the different proportions which ensue result from two causes: first, actual increase in the length of tail; second, actual decrease in the length of wing. I am not aware that this fact has been noted in the case of any other western bird, though I find a similar but slight tendency in this direction in the *Pipilo* var. *megalonyx*, the western form of the *P. erythrophthalmus*. A careful examination of other species may reveal a similar tendency.

By the above arrangement the four forms will require to stand as follows: —

***Passerella iliaca* (Merr.).** *Habitat*, Eastern Province of North America. Breeds from British America northward; across to mouth of Yukon. In migrations to eastern edge of great plains; occasional in spring in Colorado (Maxwell) *fide* Ridgway.

***Passerella iliaca townsendi* (Aud.).** *Habitat*, Pacific Province. Breeds in Northern Sierras; Southern California in winter; confined to western slope of Sierras.

***Passerella iliaca schistacea*, Bd.** *Habitat*, Middle Province, restricted by western edge of plains and eastern slope of Sierras; a rare straggler in Kansas and California in fall.

***Passerella iliaca megarhyncha*, Bd.** *Habitat*, southern Sierras, eastern as well as western slope. Probably resident wherever found.

NOTES ON THE BREEDING HABITS OF *CARPODACUS PURPUREUS* VAR. *CALIFORNICUS*, WITH A DESCRIPTION OF ITS NEST AND EGGS.

BY WILLIAM A. COOPER.

My attention was called to an article in the April number of "The Nuttall Bulletin" relative to the nest and eggs of the California Purple Finch. As my experience does not corroborate the description there given, but differs widely from it, I send the following account of several nests and sets of eggs, fearing the article in question may mislead many whose knowledge may be restricted to published information. About ten nests of this bird have come under my observation during the last ten years. Of each of these the framework was loosely constructed, a portion of each nest being formed of pieces of *Scrophularia nodosa*, some of these being entirely of this plant. I have never found a nest in a fork, and they are usually placed at a considerable distance from the ground. Favorite situations are the tops of tall willows, alders, trees covered with climbing ivy, and horizontal branches of redwoods. The var. *californicus* is as abundant around Santa Cruz as is the *C. frontalis*; but while the latter breeds in the gardens throughout the city, the former retires to the wooded river-bottoms, or the hills back of the town. Being unacquainted with the particulars concerning the capture of the male parent bird, or with its captor (Mr. C. A. Allen), I am unwilling to take the ground that the nest and eggs referred to are not genuine; but the chances of a mistaken parentage appear quite probable.

Four nests and sets of eggs of var. *californicus* give the following characters:—

1. May 30, 1875, I found a nest containing five eggs; incubation a few days advanced. The nest measured 6 inches in diameter outside, 2.50 inside, depth 2.50 outside, 1.38 inside; the framework was of fine dried tops of *Scrophularia*, loosely put together; the inner consisted of fine denuded vegetable fibres, soft woolly substances, compactly made, lined with a few hairs. The nest was placed on a horizontal branch of an alder-tree, forty feet high, built on the top of a limb and barely fastened to it. One egg was broken; the remaining four measure .80 x .58, .80 x .55, .80 x .55,

.77 x .54. They are of a bluish-green color, marked with spots of brown and dull purple, chiefly around the larger end.

2. The same day I found another nest, containing four eggs, which had been incubated about the same length of time as the former. This was placed on one of the topmost branches of an alder-tree fifty feet high. Framework of fine stems, among them *Scrophularia*; also a few pine roots; inner portions of fine fibres, lined with wool and hair. The ground-color of eggs is similar to that of set No. 1; the markings, however, are quite different, being of a dull brownish-purple, minute and confluent, forming a ring around the end of two eggs, and a large spot on the end of the remaining two, one of the latter being also spotted over the entire surface, less abundantly than on the end; they measure .83 x .57, .81 x .56, .81 x .56, .80 x .54.

3. May 3, 1876, I found a nest with four fresh eggs. It was placed twenty feet from the ground, in a thick bunch of willow sprouts, near a small creek. The female bird was on the nest, and would not leave till I almost touched her. The eggs are of a light emerald-green color, spotted similarly to those of set No. 1, the markings forming a more decided ring around the end; the form is more pointed, and the ground-color is deeper than in sets one and two. Measurements, .75 x .55, .73 x .56, .72 x .56, .71 x .57. The framework of the nest consists entirely of *Scrophularia*; the inner nest of roots and bark, lined with fine bark and hair.

4. May, 1875, George H. Ready found a nest containing four fresh eggs. The nest, similar to those above described, was placed on a horizontal branch of an apple-tree in Mission Orchard. These eggs are of an emerald-green color, and are more pointed than any of the other specimens; the markings are finer than those of sets one and three, and darker, some being almost black; a perfect ring is formed around the end of each, and the whole surface of one is spotted. They measure, .80 x .59, .77 x .58, .77 x .56, .76 x .57.

I have on several occasions seen these Finches in trees wherein were nests of *C. frontalis*. The most faded egg I have is much more deeply colored than any egg I have ever seen of *Cyanospiza cyanea*. The markings are always plentiful, forming a ring around the end of many specimens. The only egg I have of *Carpodacus purpureus* is hardly distinguishable from those of var. *californicus*.

I may here add that *Carpodacus purpureus* var. *californicus* is

the most destructive bird we have, visiting our orchards and destroying young buds, blossoms, and fruit. I have swept up a basketful of cherry-blossoms from under one tree in a single day, the heart of the blossoms being the food sought.

*Santa Cruz, California.*

NOTE. — In reference to Mr. Cooper's allusion in the foregoing article to my paper on the nest and eggs of the California Purple Finch, I will add that the bird sent with the nest is positively *Carpodacus purpureus* var. *californicus*, and in view of the improbability of Mr. Allen's having shot a bird not the parent of the eggs I am led to believe that these eggs are abnormal specimens, possibly representing what may be termed an albinistic tendency, like occasional white eggs of our common Bluebird.—W. BREWSTER.

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#### DESCRIPTION OF A NEW WREN FROM THE TRES MARIAS ISLANDS.

BY ROBERT RIDGWAY.

IN casually examining the series of Wrens in the National Museum collection, I happened to notice certain differences between specimens of so-called *Thryothorus felix* from the Tres Marias Islands, off the western coast of Mexico, and examples typical of the species collected on the adjoining mainland, in the vicinity of Mazatlan. These specimens were all obtained subsequent to the publication of Professor Baird's "Review of American Birds" (1864 - 1866); and since Mr. Lawrence makes no mention of the difference alluded to, in either of his recent papers on the ornithology of Western Mexico, I presume that gentleman had no opportunity of making a direct comparison of the series from the two localities.

The new form is clearly a derivative from the mainland species, but is so far differentiated as to require a distinctive name. I therefore propose to name it *Thryothorus lawrencii*, in honor of the distinguished ornithologist referred to above. Its characters are as follows: —

*Thryothorus felix, s. lawrencii*, RIDGWAY, MSS.

CHAR. — Above light grayish-brown, without appreciable bars anywhere, except on the tail; pileum decidedly more reddish, and inclining to light cinnamon-brown. Tail similar in color to the back, but

crossed by numerous (seven or eight, the number rather indefinite, however) bars of black; these bars becoming broken towards the ends, and gradually obsolete at the bases of the feathers; the ground-color occasionally paler along the posterior edge of the blackish bar. Whole side of the head and entire lower parts white, the sides faintly tinged with buff. A distinct dusky stripe along upper edge of auriculars, below the very conspicuous and continuous white superciliary stripe. Bill and feet plumbeous-dusky. Wing, 2.30 - 2.45; tail, 2.30 - 2.45; bill, from nostril, .45 - .48; culmen, .75 - .78; tarsus, .80; middle toe, .50.

*Habitat.* Tres Marias Islands, off the western coast of Mexico.

*Types.* 37,329, ♂ (Jan. 1865), 50,817, and 50,818 (U. S. Nat. Mus. Catal.), Tres Marias; Col. A. J. Grayson.

The principal characteristics of this form and the typical one may be contrasted as follows:—

*a. felix.* Throat bordered along each side by a wide and conspicuous stripe of black; whole sides of neck and also auriculars distinctly streaked with black; entire lower parts, except throat, buff, deepest along sides. Wing, 2.10 - 2.35; tail, 2.25 - 2.35; bill, from nostril, .39 - .42; tarsus, .80 - .90; middle toe, .50 - .52.\* *Hab.*, mainland of Western Mexico, from Mazatlan to Oaxaca.

*β. lawrencii.* Black markings of cheeks, etc., usually entirely absent, very rarely barely indicated; lower parts, except sides, pure white. Wing, 2.30 - 2.45; tail, 2.30 - 2.45; bill, from nostril, .45 - .48; tarsus, .80; middle toe, .50.† *Hab.*, Tres Marias Islands, Western Mexico.

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#### ADDITIONAL REMARKS ON *SELASPHORUS ALLENI*.

BY H. W. HENSHAW.

IN his remarks on *Selasphorus allenii*, in the October number of the Bulletin, Mr. D. G. Elliot attempts to prove that in selecting this, the Green-backed,‡ or, as he calls it, the Californian form, for naming, I committed an error, this, according to him, being the bird described by Gmelin as the *Trochilus rufus*, and hence, as he claims, it was

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\* Five specimens measured, *all from Mazatlan*.

† Three specimens measured.

‡ In this article, by the Green-backed Hummer will be understood the recently recognized form from California; the Rufous-backed bird being the old and better known form from Mexico and the West Coast generally. The coloring of the adult males renders these names sufficiently appropriate.

the other, or Rufous-backed, form which required christening. A careful perusal of Mr. Elliot's paper fails to convince me of my supposed mistake, and I think a short review of the matter with a few critical remarks on his paper, may be made to show that my critic is the one who has been misled into the erroneous identification of Gmelin's bird.

From lack of space, I refrain from quoting Gmelin's and Swainson's descriptions, nor will this be necessary. It may be stated, however, that the accounts of these authors, as well as Latham's, upon which Gmelin's was based, apply in every particular to the Rufous-backed bird, the assumption that it was this form these writers intended to describe not being controverted by a word in either. Mr. Elliot's opinion that it was the other or Green-backed form involved in their accounts is based chiefly on the fact of an omission, no mention being made of the notched rectrices which are present in the Rufous-backed form, and also because the description of the outer tail-feathers is more applicable to the latter. That Gmelin and Swainson should have overlooked the notch in the rectrices next the middle pair will not appear so very singular in the light of the fact that it has since been repeatedly overlooked by authors with equal and perhaps better claims to accuracy than can be conceded to either of the above. Both Audubon and Baird, who describe the outer tail-feathers of their *S. rufus* in terms similar to the earlier writers, making no mention of notched rectrices, and both of whom, as my critic implies, must necessarily, therefore, have had the Green-backed bird under consideration, actually did have perfectly typical examples of the Rufous-backed bird. Audubon's type, at present in the Smithsonian, was before me when my article was written, as were also Professor Baird's specimens. They are all, with one exception, fine examples of the Rufous form. This exception is the adult male, No. 6059, mentioned by Professor Baird on page 184, Vol. IX, P. R. R. Reports, as having the back covered with metallic green. This specimen, as I ascertain by inspection, is the true Green-backed form, our *S. alleni*. Professor Baird appeared to regard this peculiar coloration as presenting merely a notable exception to the rule, and passes it by without further comment. His description was based on typical specimens of the Rufous form. The more recent authorities then, notwithstanding Mr. Elliot's opinion to the contrary, having overlooked the fact of a notch in the rectrix, it is not too much to suppose a similar result at the hands

of the earlier and, as a rule, far less particular compilers. The *particularly narrow* outer rectrices mentioned in all the accounts, upon which so much stress is laid by Mr. Elliot, by no means necessarily refers to the Green-backed form, though, as a matter of fact, the outer tail-feathers are much narrower in this species than in the other. The term is evidently one of contrast, the comparison being suggested by the extreme narrowness of the outer feathers as compared with the *inner*, which are really very broad. In fact, there was nothing else to invite this particularity here. There being but one species known to all these authors, there was hence no need of comparative diagnosis other than that suggested by the parts themselves.

Gould, in his Monograph of the *Trochilidae*, after describing what was unquestionably the true Rufous-backed bird of Gmelin, the male with its "back cinnamon brown," adds: "The above is the usual coloring, but I have occasionally seen fully adult males with the rich gorget in which the coloring of the back was totally different, being of a *golden green*,"\* and presenting so great a contrast as almost to induce a belief that they were of a different species." This latter allusion, as in the case of Professor Baird's, is without doubt to the Green-backed form, its peculiarities of color being evidently the only difference noted by him. His figures, it is true, do not show the notched rectrix belonging to the Rufous form, whence Mr. Elliot concludes that they must represent the other bird. But in color, as also, it is to be particularly noted, in the shape and size of the outer rectrices, they correspond exactly with the Rufous-back and differ irreconcilably from the Green-back. In short, they would not serve to identify the latter bird at all, but are good figures of the former in all respects except in the omission of the notch in the tail-feathers, in which particular they merely repeat the oversight of the other authors.

The Smithsonian possesses several specimens of the Rufous-backed form with its notched tail-feathers received directly from Mr. Gould. That his collection contained this form is therefore certain, if indeed further confirmatory proof were necessary. The peculiarity of the notched tail-feathers was simply overlooked.

But to return to the earlier writers; the selection of Gmelin's name is of itself suggestive that the bird he had in hand could

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\* Italic my own.

not have been the one with the bright green back. "Trochilus rufus subtilis exalbidus" points at once to the Rufous-backed form. The other bird with the small amount of rufous below would scarcely have suggested this name. Referring to Swainson's account, which was, as Mr. Elliot remarks, in all probability based upon one of Gmelin's original specimens, possibly his type, we find his description beginning thus, "General tint of the upper plumage rufous or cinnamon, which covers the head, ears, neck, back, rump, upper tail-coverts, and margins of the tail-feathers. . . ." This applies perfectly to the Rufous-backed form, but in no wise meets the necessities of the other bird. For while color is not the most desirable test, and may often prove unreliable, yet in the case of the males of these two birds the variation in color, while considerable, as pointed out in my former article, is never sufficient to obliterate their specific distinctness. They may be invariably told by the color of the back alone.

Mr. Elliot appears to have overlooked much of Swainson's article. For in his remarks that author states, after indicating that he has before him one of Gmelin's original specimens as correctly quoted by Mr. Elliot, "We are likewise able to vouch for its geographic range to the southward as far as the table-land of Mexico, near Real del Monte; specimens from that part having been obligingly sent us for examination. . . ." Thus Swainson vouches for the identity of Gmelin's original specimen, perhaps type, with the Mexican form, which is, as Mr. Elliot says, the Rufous-backed bird. Could stronger proof be asked?

Mr. Elliot's discrimination in the color of the ruffs of the two species I have not been able to verify. The differences he appears to have found in his specimens I am sure, after having examined numerous individuals, are not constant, and hence are of no use as diagnostic features. Mr. Elliot says, "I do not think that the females have any metallic feathers on the throat." In this he is mistaken. Adult females *invariably* have a metallic patch on the median line of the throat. The young males are very differently marked, and have the metallic feathers, which become brownish towards the chin, distributed quite evenly over the throat, the space occupied by them often indicating the extent of the ruff of the following year. The young females alone have the throat almost immaculate, or faintly flecked with brown.

**RANGE.** We have no proof at the present time showing that the

Green-backed form, *S. alleni*, extends north of California. Some pretty strong evidence to the contrary, of a negative character, may be advanced. The Smithsonian collection contains quite a number of specimens of the Rufous bird from Oregon, Washington Territory, Vancouver Island, and Sitka, a region faunally quite the same as Nootka Sound, which is on the southwestern shore of Vancouver Island. The presumptive evidence is quite strong that if the Green-backed form were really present it would have appeared in the numerous collections from this region received by the Smithsonian. From the above proof it seems clear that Gmelin's bird was the Rufous-backed form, which of course retains his name *rufus*, thus leaving to the Green-backed form the name *Selasphorus alleni* given by me in the July number of this Bulletin (Vol. II, No. 2).

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## DESCRIPTIONS OF THE FIRST PLUMAGE IN VARIOUS SPECIES OF NORTH AMERICAN BIRDS.

BY WILLIAM BREWSTER.

### I:

THE first plumage assumed by nearly all young *Altrices* (birds which are reared in the nest) at or about the time of leaving the nest, though representing a universal, and, in the majority of cases, well-defined stage, has been almost entirely ignored by Ornithological writers, or, if referred to at all, in such comprehensive and indefinite terms as to afford information of little distinctive value. Thus under the general term "young," we find described sometimes the *real nestling*, but more frequently the *young in autumnal dress*.

My attention was called to this fact some years since by the extreme difficulty, and too often impossibility, of identifying by "the books" nestlings of even the commoner species. I have since given special care to the acquisition of series of specimens representing *all* the stages through which birds pass in arriving at maturity, and it is proposed in the course of the present paper to treat, as fully as may seem necessary, some hitherto undescribed plumages of North American birds, and also in certain instances to clear up the confu-

sion that has previously resulted either from misapprehension, or from a too free use of certain distinctive terms.

While it is to be regretted that the specimens at hand do not furnish full series of even all the commoner species, it is nevertheless hoped that, by calling attention to this hitherto neglected field, an impetus will be given to future investigation that may result in a more complete knowledge of the subject than can here be presented. Before proceeding to a detailed consideration of specimens it may prove of interest to state briefly a few generalizations regarding the comparative development of the young in different families of birds.

Among North American *Altrices* the young of most species are born with thin patches of delicate, soft down, restricted mainly to the feather-tracts. Beneath this fluffy down the feathers are already forming; these soon appear, bearing at their summits the little tufts of down that formed the down-patches. Meanwhile the remiges and rectrices have started, and, growing with marvellous rapidity, the bird is soon able to take wing. The contour-feathers have now also nearly reached their full growth, and differ in both structure and color from the later stages of plumage, these feathers being softer and of a more open texture than those that succeed them. This is the stage of plumage technically characterized throughout the following paper as the *first plumage*. Though evanescent, it is usually worn for several weeks after the bird has left the nest. It is then *moulted*, and the regular autumnal plumage succeeds.

The remiges and rectrices are, however, nearly always *retained until the next regular moult*, exceptions to this rule being afforded by the families *Tetraonidae* and *Picidae* and the genus *Philohela*, and probably by a few other groups, in which the remiges and rectrices are moulted with the rest of the first plumage.

The early tegumentary development of most *Præcoces* (birds whose young run about at birth) is quite different: they are densely clothed with down until of large size, when, coincident with the sprouting and growth of the remiges and rectrices, the feathers of the full autumnal plumage appear. In short, the first plumage of Altricial birds seems to be omitted or perhaps replaced in the *Præcoces* by their more complete and longer worn, downy plumage. A few conspicuous exceptions occur among both groups. Thus, many *Raptores* differ from the *Altrices* in being densely clothed with

down from birth until of large size, when the autumnal plumage is immediately assumed; while among *Præcoce* the young of the *Tetraonidae*, of *Philohela minor*, and of some of the *Rallidae* (well illustrated by a good suite of *Rallus virginianus*), pass in succession through two well-defined primal stages,—the downy one characterizing their own group and the first plumage of *Altrices*. In the *Anatidae*, and probably some other *Natatores*, the remiges and rectrices are not developed until the young bird is almost fully grown and the autumnal clothing-plumage nearly perfect. A few families, as the *Ardeidae*, have not been fully investigated, and may furnish additional interesting exceptions.

In concluding these prefatory remarks, I wish to gratefully acknowledge an act of generosity on the part of Mr. Robert Ridgway. He had some time since made investigations respecting the early stages of plumage of birds, and had even sent descriptions of the first plumage of some North American Warblers for publication in the "Bulletin," when, learning of my prior researches and somewhat more extensive material, he very kindly withdrew his paper and placed the whole result of his work in my hands, thus enabling me to add a number of species not represented in my collection. The descriptions of these are presented in Mr. Ridgway's own words, and indicated by quotation marks and his initials. I desire also to express my thanks to my friend Mr. J. A. Allen for valuable suggestions and information.

#### 1. *Turdus mustelinus*.

*First plumage*: female. Generally similar to adult, but with the feathers of crown streaked centrally with buff; "rusty-yellow triangular spots at the ends of the wing-coverts and a decided brownish-yellow wash on the breast." From a specimen in my collection, shot by Mr. W. D. Scott at Coalburgh, West Virginia, July 25, 1872. This bird is perhaps a little past the first stage of plumage, most of the feathers of the upper parts being those of the autumnal dress.

#### 2. *Turdus pallasi*.

*First plumage*: female. Remiges and rectrices as in adult, but darker and duller; rump and tail-coverts bright rusty-yellow; rest of upper parts, including wing-coverts, dark reddish-brown, each feather with a central tear-shaped spot of golden-yellow: entire under parts rich buff, fading to soiled white on abdomen and anal region; each feather on jugulum and breast broadly tipped with dull black, so broadly, indeed, that this color covers nearly four fifths of the parts where it occurs; rest of under parts, with exception of abdomen and crissum, which with the

central region of the throat are immaculate, crossed transversely with lines of dull black. From a specimen in my collection shot at Upton, Me., June 20, 1873. This bird was very young,— scarcely able to fly, in fact,— yet the color of the rectrices is sufficiently characteristic to separate it at once from the corresponding stage of *T. swainsoni*, which it otherwise closely resembles. Another specimen of apparently nearly the same age, taken at Rye Beach, N. H., July 25, 1872, differs in having a decided reddish or rusty wash over the entire plumage, and by the spots on the breast being brownish instead of black.

### 3. *Turdus swainsoni*.

*First plumage*: male. Above much darker than adult, each feather, excepting on rump and tail-coverts, with a tear-shaped spot of rich buff: beneath like adult, but rather more darkly and thickly spotted on the breast, and with narrow terminal bands of dull black on the feathers of the lower breast and sides. From a specimen in my collection shot at Upton, Me., August 4, 1874.

### 4. *Turdus fuscescens*.

*First plumage*: female. Above bright reddish-buff, deepest on back and rump: feathers of pileum, nape, back, and wing-coverts margined with dark brown, confining the lighter color to somewhat indefinitely defined central drop-shaped spots. Lores and line from lower mandible along sides of throat, dark sooty-brown: throat, sides, and abdomen pale brownish-yellow with indistinct transverse bands of brown; breast deep buff, each feather edged broadly with dull sooty-brown; anal region dirty white. In my collection, taken in Cambridge, Mass., July 23, 1874.

### 5. *Mimus carolinensis*.

*First plumage*: male. Pileum dull sooty-brown, many shades lighter than in adult. Wings and tail as in adult; interscapular region brownish-ashy, shading into pale cinnamon-brown on the rump. Entire under parts barred obscurely with dull brown on a very light ashy ground; crissum pale, dead cinnamon. In my collection from Cambridge, Mass., August 9, 1875.

### 6. *Harporrynchus rufus*.

*First plumage*. Generally similar to adult, but with the spots on the under parts much thicker, more diffuse, and dull black instead of reddish-brown. The pileum is slightly obscured by a blackish wash; the rump rich golden-brown, and the spotting on the wing-coverts fawn-color. From specimens in my collection obtained at Cambridge, July 13, 1874.

Fall specimens differ from full-plumaged spring birds in having the upper parts of a darker, richer red, with a much stronger rufous wash on the under parts.

7. *Sialia sialis*.

*First plumage*: female. Above dull smoky-brown, unmarked on head and rump, the latter slightly paler; but marked over the interscapular region and wing-coverts by tear-shaped spots of white and pale fawn-color, these spots occupying the central portions of the feathers. Secondaries and tertaries edged, and tipped with reddish-brown; first primary and lateral pair of rectrices with the outer webs pure white; inner primaries as in adult, but with the blue of a much lighter shade; posterior margin of eye with a crescentic spot of soiled white. Under parts, with the exception of the abdominal region, which is nearly immaculate, pale ashy-white, each feather broadly margined with dull cinnamon-brown. From a specimen in my collection, shot at Cambridge, Mass., June 8, 1874.

8. *Regulus satrapa*.

*First plumage*: female. Pileum (including forehead) dark smoky-brown; line over the eye entirely cut off at its anterior corner by the junction of the dusky lores with the brown of the forehead; tertaries broadly tipped with white; breast strongly washed with pale fawn-color; otherwise like adult. From a specimen in my collection taken at Upton, Me., August 25, 1874. A young male taken August 25, 1873, is in every way similar. A good series of specimens of various ages shot during August and the early part of September illustrate well the transitional stages. First the brown of the pileum darkens into two black stripes, while the line over the eye broadens to meet its external margin. Next, two lines of yellow feathers appear inside and parallel with the black ones, while the orange of the central space (of the male) is produced last.

9. *Polioptila cærulea*.

*First plumage*: male (?). Rectrices as in the adult; remiges paler, with a much broader and whiter edging on the tertials; rest of upper parts pale mouse-color with a strong wash of light cinnamon. Entire under parts grayish-white or pale lead-color. In my collection, from Kanawha Co., West Va., June, 1872.

10. *Lophophanes bicolor*.

*First plumage*: male. Above dull ashy, frontal band scarcely darker; sides deep salmon-color. Otherwise like adult. From specimens in my collection obtained by Mr. W. D. Scott at Coalburgh, West Va., July 20, 1872.

11. *Parus atricapillus*.

*First plumage*: male. Back very dark slate without any tinges of brownish. Beneath salmon-color, faintest on breast, most pronounced on sides and anal region. The black on throat and pileum scarcely less clear than in adult. From specimen in my collection shot at Concord, Mass., June 17, 1871.

From about the time of pairing in spring till early autumn this Tit-mouse wears a plumage which has been almost, if not entirely, ignored by writers. The back is clear ashy without any brownish or olivaceous washing except in a few specimens on the rump. The under parts are white, with barely a trace of faintest salmon on the sides of the body; while the white margining on the remiges is much narrowed and on many of the feathers replaced by ashy. It may be objected that this generally paler condition is due to the wearing of the feathers consequent upon the continual passing of the birds in and out of their nesting cavities, but not all of the specimens before me are in worn plumage; one pair, taken May 12, 1876, being in remarkably perfect dress. At all events, whatever the cause, this peculiar stage is so universally characteristic of all specimens (at least, New England ones) taken at this season, that it certainly merits a fuller recognition than it has up to this time received. Five specimens examined, all collected in Massachusetts in May or June.

#### 12. *Parus hudsonicus*.

*First plumage*: female. Above olivaceous-drab, becoming much darker and more dusky on crown. Sides and anal region *very pale* brownish-rusty. Otherwise like adult. From a specimen in my collection taken at Upton, Me., August 25, 1873. This bird is, strictly speaking, in a transitional stage, having already acquired many feathers of its fall dress. It differs sufficiently, however, from the perfected condition of the autumnal plumage to merit description under the above heading.

#### 13. *Parus rufescens*.

*First plumage*: male. Pileum, nape, and throat dark sooty-brown; back dull chestnut, tinged with olive; sides ashy, washed in places with brownish-chestnut. Otherwise, like adult. From a specimen in my collection obtained at Nicasio, Cal., by Mr. C. A. Allen, May 21, 1875.

#### 14. *Sitta canadensis*.

*First plumage*: female. Above ashy with just a shade of blue; pileum dark ashy; chin and throat dirty white; rest of under parts like *spring adults*, but with a fainter and more general suffusion of rusty. From specimen in my collection taken at Upton, Me., July 31, 1874. In "History of Birds of North America" (Vol. I, p. 118) Mr. Ridgway, in giving the specific characters of this species, says: "The male has the chin white; rest of under parts, brownish-rusty." Of the female, "beneath paler, more of a muddy white." Now, if I understand rightly by this that the *breeding plumage of the adult* is indicated, I am confident that the description, so far as it relates to the male, is incorrect. From the examination of a large series of specimens, collected in every stage of plumage and at nearly all seasons, I am led to believe that Mr. Ridgway's description is applicable only to the male *in full autumnal dress*, — a mistake most easily committed when it is considered

that this plumage is worn through the winter months, or nearly up to the commencement of the breeding season, as is shown by specimens shot on the migration through Massachusetts in April. It will be seen by a comparison of the following descriptions that the brightest plumage is reached in *autumnal specimens*, a case parallel with that of *Parus atricapillus*. Hence I have judged it best to redecribe the spring or breeding plumage, using Mr. Ridgway's words so far as they are definitely applicable. The autumnal plumage is presented, I believe, for the first time.

*Breeding plumage:* Adult male. "Above ashy-blue: top of head black: a white line above and a black one through the eye." Entire under parts *dirty white*, tinged *very slightly* with pale rusty on breast, sides, abdomen, and crissum. From specimen in my collection shot at Upton, Me., May 31, 1871.

Adult female. With black of head scarcely duller than in the male: beneath similar, *perhaps a trifle less rusty*. From specimen in my collection obtained on Muskeget Island, Mass., June 30, 1870. It is very possible that this bird represents a development of plumage only exceptionally attained by the female; I have seen no other specimen of that sex with the color of the crown so nearly approaching that of the male.

*Autumnal plumage of young:* male. Upper parts as in breeding adults, the ash-blue a little clearer and brighter. Chin white; rest of under parts brownish-rusty, paler on throat and intensifying into light chestnut on sides. A narrow line down centre of abdomen pure white (this last feature, though characteristic of most specimens, is wanting in a few). From a specimen in my collection shot at Upton, Me., September 7, 1874.

Female. Pileum dark ashy mixed with black. Otherwise similar to male and scarcely lighter beneath. From specimen in my collection shot at Upton, Me., September 12, 1874.

The adult in autumn is paler beneath than the young.

#### 15. *Thryothorus ludovicianus*.

*First plumage:* male. Top of head dark rusty, each feather edged and tipped broadly with dull black, the former color nearly eliminated by the latter on the crown and forehead. Under parts nearly as in adult, but more cinnamomeous; a few narrow, wavy, and somewhat badly defined transverse lines of black across the breast and abdomen. From a specimen in my collection shot at Petroleum, West Va., May 1, 1874.

#### 16. *Troglodytes a. don*.

*First plumage:* female. Upper parts more reddish than in adult: throat, jugulum, and breast pale fulvous-white, each feather on breast tipped with pale drab, giving that part of the plumage a delicately scutellate appearance. Abdomen whitish; sides, anal region, and crissum dull rusty-brown, becoming almost chestnut on the crissum. No trace of bars on feathers of the body either above or beneath. From specimen in my collection shot at Cambridge, Mass., July 9, 1873.

17. *Troglodytes parvulus* var. *hyemalis*.

*First plumage*: male. Remiges, rectrices, etc., as in adult; rest of upper parts dark reddish-brown, becoming more dusky anteriorly: no trace of bars except on wings and tail. Beneath dull smoky-brown, with a strong ferruginous suffusion on sides, anal region, and crissum; every feather of under parts with a bar of dark brown. From a specimen in my collection taken at Upton, Me., August 4, 1874.

18. *Telmatodytes palustris*.

*First plumage*: female. Entire pileum, nape, and interscapular region dull black; no white streaking or spots; otherwise like adult. From specimen in my collection taken at Cambridge, August 10, 1873.

19. *Cistothorus stellaris*.

*Autumnal plumage*: young male. Above similar to adult, but darker, especially on nape and pileum. Throat and abdomen light buff; breast, sides, anal region, and crissum rusty-brown, paler and with white tipplings to the feathers anteriorly. From a specimen in my collection shot at Cambridge, Mass., September 19, 1870.

20. *Minotilta varia*.

"*First plumage*. Similar in general appearance to the adult female, but markings, especially the two stripes of the pileum and the streaks beneath, much less sharply defined; the streaks of the breast indistinct grayish-dusky, suffused with pale fulvous, those of the back more strongly tinged with rusty. The two stripes on the pileum dull grayish-dusky, instead of deep black. From a specimen in my collection obtained near Washington, July, 1876." — R. R.

21. *Parula americana*.

"*First plumage*: male. Remiges, rectrices, etc., as in the adult. Pileum, nape, rump, and upper tail-coverts dull gray, tinged with olive anteriorly and with blue posteriorly, the back with more or less of an indistinct patch of olive-green; throat and eyelids grayish-white, abdomen, anal region, and crissum pure white: jugulum and sides of breast pale ash-gray. From two specimens obtained at Mt. Carmel, Ill., July 17, 1871, Nos. 1457 and 1563, my collection. Both of these show a large patch of bright gamboge-yellow on the breast, these feathers denoting the commencement of the adult plumage. One of them also has the chin and an indistinct supraloral line tinged with yellow." — R. R.

22. *Protonotaria citrea*.

"*First plumage*. Remiges, rectrices, primary coverts, and alulae as in the adult. Entire abdomen, anal region, and crissum white; head, neck, back, and jugulum pale greenish-olive, the throat and jugulum paler and

more olive, the upper parts brighter and more greenish; rump and upper tail-coverts plumbous-gray. From a specimen killed at Mt. Carmel, Ill., July 22, 1875; in my collection. In this specimen a large patch on each side the breast is bright gamboge-yellow (as is also a row of 'pin-feathers' along the middle of the throat), indicating the adult plumage."—R. R.

23. *Helmitherus vermivorus*.

"First plumage. Remiges, rectrices, primary coverts, and alulae as in the adult. Rest of the plumage, including the whole back, lesser, middle, and greater wing-coverts, buff, deeper below, more brownish on the back and base of the wing-coverts. Pileum with two badly defined stripes of grayish-brown, and a narrow streak of the same behind the eye. From a specimen in Mr. Henshaw's collection obtained near Washington in July, 1876."—R. R.

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AN INADEQUATE "THEORY OF BIRDS' NESTS."

BY J. A. ALLEN.

WHY the thousands of species of birds build each a peculiar nest, differing more or less in situation and architecture from those of all other species, is a question which has as yet received no satisfactory answer. As a rule, the nest, including its location, the materials and manner of its construction, is as distinctive of the species as the number, size, form, and color of the eggs, or, in some instances, as any fact in its history, not excepting even the details of structure and coloration of the bird itself. Why this is so we can perhaps explain when we can satisfactorily account for the diversity of song that is scarcely less a specific characteristic. Yet the structure and position of the nest, even among birds of the same species, is more or less varied by circumstances, sometimes even to a striking degree. In some cases the influence of peculiar surroundings is most obvious, as when, for instance, a species that habitually nests in trees, like the Carolina Dove, is found in treeless regions to place its nest on the ground, or when a Woodpecker, under similar circumstances, excavates for its nesting-site a cavity in a clay-bank. Not unfrequently birds exhibit in their choice of nesting-sites something quite akin to intelligent foresight, as is manifestly the case when such species as the Brown Thrush and

the Canada Goose, that commonly nest on the ground, place their nests in bushes or trees in localities subject to sudden inundation. Many species, profiting by dearly bought experience, will abandon, in consequence of persistent persecution, long-occupied breeding-grounds for those more remote from danger. A remarkable instance of change in breeding habits from this cause is afforded by the Herring Gull, which, to escape its human foes, has been known to depart so widely from its usual habit of nesting on the open sea-shore as to place its nest in trees in more or less inland swamps. That birds have the power to grapple intelligently with unexpected emergencies has been repeatedly shown, a most striking instance being afforded by the Baltimore Oriole, which has been observed to repair a half-demolished nest by weaving one end of a string into the weaker side and fastening the other end taut to a branch above. The fact that various species of Swallows, the Wren, Chimney Swift, and some other of our native birds which originally nested in deserted Woodpeckers' holes or hollow trees, abandon such nesting-sites for the better ones accidentally or intentionally provided by man, shows that they are by no means the slaves of "blind instinct," but are able to take advantage of favoring circumstances.

The materials used by birds in forming their nests, it has been assumed, are those nearest at hand or most easy to obtain, or such as their peculiar habits chance to render them most familiar with, and that the mode of nidification depends upon their constructive ability,—upon the "tools" with which nature has provided them. This is undoubtedly to a great degree true, for it would be hard to conceive of the construction of an elaborate nest by any members of the Whippoorwill or Night-Hawk family, whose bills are excessively weak and small, and whose feet are unfitted for walking or perching, being barely able to support them on a flat surface. Hence we are not surprised that they place their eggs on the ground without the provision of a nest. Many other groups of birds are almost equally incapable of building nests. But among species equally furnished with the means for elaborate nest-making, there is the greatest diversity in the results of their architectural labors. Even when the materials employed by different species chance to be the same, the structures resulting from their use bear the impress of different architects. Nests of the same species also vary greatly at different localities in consequence of the materials

most readily available for their construction being not everywhere the same; they also vary in accordance with the climatic conditions of the locality, the same species building a quite different nest, as respects warmth and stability, in the colder portions of its habitat from that which it constructs in the warmer portions.

But while these deviations under diverse circumstances readily explain variation in the situation and character of the nests of the same species, they fail to explain why closely allied species, living together under precisely the same conditions of environment, and sometimes so closely resembling each other in size, color, and all external characters as to require the eye of an expert to detect their specific diversity, should build totally unlike nests, and display almost the widest possible differences in respect to their situation. To cite, in illustration, a single example from the many that might be given, we may instance our common Pewees and Flycatchers. In this small group we find a wide range of diversity in breeding habits among species most intimately related in structure and general habits. The Least Pewee builds a small, compact, felted nest of fine soft materials, and its nearest allies, the Acadian and Traill's, build far ruder and much more bulky structures of coarse grasses, strips of bark, and other similar materials. Another near relative of these species, the Wood Pewee, selects for its nesting-site a lichen-covered dead branch, on which to saddle its small, highly artistic, cup-shaped nest, covered externally with lichens glued to the surface in such a manner as to render the structure almost indistinguishable from a natural protuberance of the branch itself. The Bridge Pewee, another allied species, builds a large bulky nest, formed outwardly of a heavy layer of mud, copiously lined with dry grass and feathers, and shelters it in the chinks of walls, under shelving rocks, in sheds, outbuildings, and under bridges. The Great-crested Flycatcher chooses hollow trees or deserted Woodpeckers' holes in which to form its nest and deposit its eggs, while its allies, the Kingbirds (genus *Tyrannus*), build large open nests, which they make no attempt to conceal.

Notwithstanding all this diversity of situation and structure among closely allied species, birds' nests have been divided into two classes, according to "whether the contents (eggs, young, or sitting bird) are hidden or exposed to view," and the broad generalization based thereon that the character of the nest is intimately related to the color of the female parent-bird. This, in fact, is Mr.

Wallace's "Theory of Birds' Nests." \* This "theory" has for its basis the assumed "law which connects the colors of female birds with the mode of nidification." Mr. Wallace states it to be a rule, open to "but few exceptions," "that when both sexes are of strikingly gay and conspicuous colors, the nest is . . . such as to conceal the sitting bird; while, whenever there is a striking contrast of colors, the male being gay and conspicuous and the female dull and obscure, the nest is open and the sitting bird exposed to view." He cites as examples of the first class, or those in which the female is conspicuously colored and the nest concealed or covered, "six important families of *Fissirostres*, four of *Scansores*, the *Psittaci*, and several genera and three entire families of *Passeres*, comprising about twelve hundred species, or about one seventh of all known birds." This statement, however, proves on examination to be quite too sweeping, since a large proportion of the species here named either do not have a concealed nest, or are of sombre and obscure tinta. There are also other entire families and various additional genera, in which the males are brilliantly and the females obscurely colored, which build a domed nest. I now propose, so far as the limits of a short article will allow, to test this theory by a rapid survey of the birds of North America, — an area certainly large enough to afford a fair basis of judgment. For this purpose I shall consider the modes of nidification under four heads, namely, (1) nidification in holes in trees; (2) in burrows; (3) domed, pensile, or otherwise more or less "covered" nests; and (4) nests wholly open.

1. Among North American birds those that habitually nest in holes in trees embrace several species of the smaller Owls, one or two kinds of small Hawks, all the various species of Woodpeckers, all the numerous species of Titmice of the genera *Lophophanes* and *Parus*, the several species of Nuthatches, the Brown Creeper, some of the Wrens, the Bluebirds (three species of *Sialia*), several species of Swallows, Martins, and Swifts, the Great-crested Flycatcher, the Carolina Paroquet, and three or four species of Ducks. In very few of these can the colors be considered as "strikingly gay and conspicuous," and when this is the case, as in the Bluebirds, a few of

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\* Originally published in the *Intellectual Observer* of July, 1867, and republished with additions in 1870 in a collection of essays entitled "Contributions to the Theory of Natural Selection," and alluded to in more recent articles by the same author, including his recent paper on "The Colors of Animals and Plants."

the Woodpeckers, some of the Swallows, the Wood-Duck, the Hooded Merganser and the Buffle-head, the females are much paler and duller colored than the males. In many other instances the colors are in the highest degree adapted for concealment under every circumstance, and especially in a sitting female bird, as, for instance, in the Brown Creeper, the Wrens, some of the Titmice, the Swifts, and various others!

2. The burrowing species embrace the Prairie Owl, the Kingfishers, two species of Sand Martin or Bank Swallow, the Petrels, various species of Auks and Puffins, and some of the Guillemots. The Kingfishers possibly excepted, almost none of these have bright or conspicuous colors, while in several the colors could scarcely be better adapted for concealment. Especially is this the case with the Owl and Sand Martins, with their dull neutral tints.

3. Among the comparatively few species that build a covered or domed nest are the ground-building Golden-crowned Wagtail or "Oven-Bird," the Dipper or Water-Ousel, the Meadow Lark, the common Quail, and several Warblers. The first two of these have tints peculiarly adapted for concealment, and the colors of the dorsal area in the others are likewise "protective." Among the species building covered nests in reeds, bushes, or low trees, are Marsh Wrens, some of the other Wrens, the smaller Tits (genera *Psaltriparus*, *Auriparus*, etc.), several of the Warblers (family *Sylvicolidae*), the Magpie, and perhaps a very few others. Of these the Wrens and Tits are all obscurely or protectively colored, and have no "surprisingly gay and conspicuous" tints. Some of the Warblers are more brightly colored, and a few have rather conspicuous markings; but these features are almost wholly confined to the male, the females being of comparatively dull and obscure tints. The Magpie has showy colors and a very long tail, and the bulky nest, wholly concealing the sitting bird, may be useful in hiding these otherwise betraying features. The species which build hanging, purse-shaped, or subpensile nests are the Orioles and Vireos. In the case of the former the nest is most illy adapted for protection from the most dangerous foes of the species, the predatory Crows, Jays, and Cuckoos, being often a conspicuous object, with, so far as the United States species are concerned, no compensating feature of security. Here again, while the males are in some instances arrayed in "strikingly gay and conspicuous colors," the females do not to any great extent share their bright hues, the sexual differences in

color among our native birds being rarely greater than in these species. The subpensile nests of some of the Vireos are to be perhaps more properly referred to the type of open nests. In either case we find only slight sexual difference in color, with the olivaceous hue of the back well fitted for concealing the female bird. But this is in part offset by the usually light color and somewhat exposed situation of the nest.

4. The great bulk of the species fall of course into the fourth category, or those with the nest open. These embrace (with two exceptions, the Woodpeckers and the Kingfishers) birds of every family represented in our fauna, and are about equally divided between ground-builders and those which nest in bushes or trees. As a rule (as, in fact, throughout the class of birds) in those arrayed in conspicuous tints the females are obscurely colored, in comparison with the males. Yet to this rule there are exceptions, as notably among the Jays, some of which do have "surprisingly gay and conspicuous colors," and among which both sexes are equally brilliant. The shining black color of the Crows, the Raven, and some of the Blackbirds are equally or (in the latter) almost equally shared by both sexes, while the color is by no means well adapted to concealment. In many species the males, even when brightly colored, share with the females the duties of incubation. This is the case with the Rose-breasted Grosbeak, in which the male is most conspicuously colored, and who not only shares the labor of incubation, but has the most injudicious habit of indulging in loud song while sitting on the nest. In many of our ground-nesting Sparrows the sexes, in respect to coloration, are wholly indistinguishable; their obscure colors, arranged generally in streaks and spots, are certainly in the highest degree protective; their nests, although not domed, or even "covered," in the strict sense of the term, are generally most effectually concealed under tufts of herbage, and are hence far better shielded from observation than the pensile, domed, or bulky, covered nests that are regarded by our author as so highly conducive to security through the concealment of the eggs and young or the sitting female.

Among the groups instanced by Mr. Wallace as building open nests are "the extensive families of the Warblers (*Sylviadæ*), Thrushes (*Turdidæ*), Flycatchers (*Muscicapidæ*), and Shrikes (*Laniadæ*)."<sup>1</sup> While in a considerable proportion of the species of these groups the males are "beautifully marked with gay and con-

spurious tints," "in every case the females are less gay, and are most frequently of the very plainest and least conspicuous hues. Now," he continues, "throughout the whole of these families the nest is open,\* and I am not aware of a single instance in which any one of these birds builds a domed nest, or places it in a hole of a tree, or under ground, or in any place where it is effectually concealed." As regards the North American representatives of these groups, there are frequent exceptions to this rule, as I have already shown, and that Mr. Wallace did not know of exceptions only shows that his examination of the subject must have been very superficial. As further evidence of the imperfection and inexactness of Mr. Wallace's knowledge of the subject concerning which he theorizes so boldly and speaks so emphatically, may be cited his remark about the *Icteridae*, or "Hangnests." "The red or yellow and black plumage of most of these birds," he says, "is very conspicuous, and is exactly alike in both sexes. They are celebrated for their fine purse-shaped pensile nests." As regards the facts of the case, there is no family of Passerine birds where the sexes, *as a rule*, are more widely different, the difference affecting not merely color, but also size, the females being not only much duller colored than the males, but much smaller. The instances in which both sexes are equally brilliant are the exceptions.

To summarize the foregoing remarks, it has been shown, so far as the birds of North America are concerned (and the same could easily be shown for other equally extensive regions), that the species which breed in holes in trees, in burrows in the ground, or in domed, pensile, or covered nests, are as often dull, obscurely colored species as bright-colored; that when the species are conspicuously colored, it is generally only the male that is attired in strikingly gay tints, the females having comparatively dull colors; and that often species in which both sexes are clothed in bright and equally conspicuous tints build an open nest; while the "theory" demands just the opposite of these conditions. In other words, that birds nest in holes, in open or in covered nests, without regard to whether the female is brightly or obscurely colored. Furthermore, that pensile and bulky covered nests are far more open to discovery than ordinary open nests, so that the advantage of having the contents concealed, be it eggs, young, or the female parent, is more

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\* The italicized portions are as in the original.

than counterbalanced by the readiness with which the nest itself is discovered.

Not to do Mr. Wallace or his theory injustice, it may be added that he has instanced a considerable number of large families of birds, found outside of North America, in which the species nest in hollow trees, and in which both sexes do have "surprisingly gay and conspicuous colors." Among these are the Trogons, the Barbets, the Puff-birds, the Toucans, and the great group of Parrots and Paroquets. But Mr. Wallace has himself given an apparently far better reason for this method of nidification in some of these groups than that involved in his above-given theory, namely, that they have not the necessary "tools" for the construction of an elaborate nest. Most of them are weak-footed and sedentary, while in other cases the form of the bill renders the construction of a nest almost impossible. Another large group, the species of which nest in holes in trees, are the Woodpeckers. Here an obvious and far more rational explanation is apparent than that afforded by the theory of concealment, for here the scores of dull-plumaged, sombre-colored species nest in holes just as do those that are conspicuously attired. In this group the species do not seek cavities already at hand, as is the case in some of the groups just cited, but form them themselves, and use them not only for purposes of nidification, but often more or less habitually as places of shelter. Nothing seems more natural than that they should avail themselves in this way of the advantages afforded them by their powerful chisel-shaped beaks, which they are constantly using as an abrading or "digging" organ in their search for food. The same explanation holds equally good for the plainly colored Tits that nidificate in holes that they themselves have the power of forming.

The Auks, Puffins, and some of the Guillemots are among the species I have cited as breeding in burrows. As they are species (occasionally conspicuous markings about the bill or head excepted) of neutral or obscure tints, — particularly as respects the exposed dorsal area of the sitting female, — their resorting to burrows is hardly necessary for concealment, since these species have no "strikingly gay" attire of plumage that would render the sitting bird in any case conspicuous. Such resorts, however, prove to be to them a great source of security, and give them an immense advantage over other species of the same family that breed at the same localities with them, but in a wholly exposed manner. The

chief enemy of these birds is man, by whom they are robbed of their eggs in a most brutal and wholesale way. The species that breed in deep crevices in the rocks almost wholly escape the rapacity of their human foes, the eggs being almost invariably, it is said, placed beyond reach, while those (some of the Guillemots) that deposit their eggs on the surface are robbed almost to extermination. The dull, thoroughly protective colors of the Burrowing Owls, of which there are several species, render them often difficult objects to discover even when wholly exposed, yet they nidificate in deserted marmot holes, and there find security against the attacks of predatory skunks and foxes, to which they would be exposed if nesting on the ground, — usually the only other alternative in the localities they inhabit. In fact, instances might be multiplied in which the breeding of birds in holes in trees, or in the earth, or in otherwise concealed nests, might be explained more rationally than by the theory of concealment of a brightly colored female parent, — the basis of Mr. Wallace's ingenious "Theory of Birds' Nests," — namely, security from enemies through other means than simply concealment.

Mr. Wallace, in commenting on "What the Facts Teach us" in relation to this theory, argues that the differences in color between the sexes in birds that build an open nest may have been brought about by the bright-colored females being weeded out or eliminated in consequence of being more exposed to the attacks of enemies, since any modification of color which rendered them more conspicuous would lead to their destruction and that of their offspring, while the attainment of inconspicuous tints would tend to their preservation. Hence this theory is intimately connected with, or in part based upon, Mr. Darwin's theory of "sexual selection," which Mr. Wallace at this time accepted, but which he has recently had the better judgment to discard as an inadequate explanation of sexual differences in color among animals.

The most surprising thing about Mr. Wallace's "Theory of Birds' Nests" \* is its inadequacy, and its irrelevancy to the facts it was proposed to explain, and in this respect it is scarcely excelled by any of the crude inventions into which the more ardent supporters of the

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\* I wish to here state explicitly that I refer in these remarks wholly to Mr. Wallace's "Theory of Birds' Nests," and not to his most admirable essay on "The Philosophy of Birds' Nests," which is replete with sound sense, and to nearly every syllable of which I most heartily subscribe.

theory of evolution by means of what has been termed "natural selection" and "sexual selection" have been betrayed.

In conclusion, I desire to call attention to an interesting coincidence between the manner of nesting among birds and the color of the eggs, and one so striking that it is almost surprising that some ingenious theorist has not seized upon it as a basis for a "theory of birds' nests," either independently or as a modification of that proposed by Mr. Wallace. It curiously happens that nearly all birds that nest in holes, either in the ground or in trees, lay *white eggs*, embracing, for instance, all the Woodpeckers, Kingfishers, Bee-eaters, Rollers, Hornbills, Barbets, Puff-Birds, Trogons, Toucans, Parrots, Paroquets, and Swifts, while only occasionally are the eggs white in species which build an open nest. In only two or three groups of land birds, co-ordinate with those just named, that build an open nest, are the eggs white, namely, the Owls, Humming-Birds, and Pigeons. On the other hand, in only two or three small groups of species that nidificate in holes are the eggs speckled or in any way colored. There is, in fact, a closer relationship, or rather a more uniform correlation, between the color of the eggs and the manner of nesting than between the color of the female parent and the concealment or exposure of the nest. There are, however, here apparently too many exceptions to bring this coincidence into the relation of cause and effect. It is perhaps rather comparable with the pattern of coloration that so often, to a greater or less degree, marks nearly all the species of a whole natural family, and often prevails throughout large genera, for which the conditions of environment offer no explanation, since it as often occurs in cosmopolitan groups as in those of local distribution, and which, in the present state of our knowledge, seems wholly inexplicable.

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#### BREEDING OF THE DUCK HAWK IN TREES.

BY N. S. Goss.

As the *Falco communis* var. *anatum* is supposed to nest almost exclusively on high rocky cliffs, and rarely if ever in other situations, I think it will be of interest for me to say that I found in February, 1875, a pair nesting about three miles southeast of Neosho Falls, Kansas, in the timber on the banks of the Neosho

River. The nest was in a large sycamore, about fifty feet from the ground, in a trough-like cavity formed by the breaking off of a hollow limb near the body of the tree. I watched the pair closely, with the view of securing both the birds and their eggs. March 27 I became satisfied that the birds were sitting, and I shot the female, but was unable to get near enough to shoot the male. The next morning I hired a young man to climb the tree, who found three fresh eggs, laid on the fine soft rotten wood in a hollow worked out of the same to fit the body. There was no other material or lining, except a few feathers and down mixed with the decayed wood.

The ground-color of the eggs is grayish-ochre, spotted and blotched with dark reddish-brown, the blotches running together towards the large end, where they are a shade darker. Length, respectively, 2.20, 2.30, and 2.40; diameter of each, 1.70 inches.

March 17, 1876, I found a pair nesting on the opposite side of the river from the above-described nest, in a cottonwood, at least sixty feet from the ground, the birds entering a knot-hole in the tree, apparently not over five or six inches in diameter. The tree was very straight, and without limbs to the nest, and consequently out of reach. The birds were very noisy, but shy. I wounded both the birds, but failed to get them.

February 2, 1877, I noticed a pair flying into the same tree. April 9, I shot them both. I now have the three birds in my collection. The measurements, as taken from the birds when shot, are as follows:—

Sex.	Length.	Stretch of Wing.	Wing.	Tail.	Tarsus.	Bill.
March 27, 1875..... ♀	20.00	46.00	15.00	7.60	1.85	.95
April 9, 1877..... ♀	19.75	45.50	14.75	7.50	1.85	.95
April 9, 1877..... ♂	18.00	41.00	13.50	6.50	1.80	.90

Cere, .31.

For a description of the species see "North American Birds," by Baird, Brewer, and Ridgway (Vol. III. p. 128). I will add: Iris, brown; bill, horn-blue, with the base pale green; cere and eyelids, greenish-yellow; legs and feet, lemon-yellow; claws, black.

April 30, 1877, I found a pair about four miles farther up the river, breeding in a hollow broken limb of a giant sycamore. From the actions of the birds, I think they had young. I feel confident they will nest there next season, and, if so, shall try very hard to procure the eggs.

The birds are very noisy while mating, but silent during incubation. The males, so far as noticed, sit upon the eggs in the fore part

of the day, the females during the latter part of the day, each, while off duty, occasionally feeding the other, but putting in a good share of the time as sentinels, perched upon a favorite dead limb near the nest, ready to give the alarm in case of approaching danger. At such times they scold rapidly, and manifest great anxiety and fear, circling overhead, occasionally alighting, and taking good care to keep out of reach. The fear of man is not without cause, for our hunters never lose an opportunity to shoot at them, knowing how destructive they are to the water-fowls found in the sloughs along the river-bottoms.

*Neosho Falls, Kansas.*

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## Recent Literature.

**BIRDS OF THE VICINITY OF CINCINNATI.** — Mr. F. W. Langdon's Catalogue of the Birds of the Vicinity of Cincinnati,\* embraces two hundred and seventy-nine species, about one third of which are marked as known to breed in the vicinity. The author gives notes respecting the times of migration, relative abundance, etc., of each species, and distinguishes those recorded in the list simply from their known range including the locality from those known to have been actually taken. They number about forty species, mainly Sandpipers, Plovers, and Terns, and embrace only such as are certainly likely to occur. The list is evidently prepared with care, and gives a convenient and undoubtedly trustworthy summary of the Avian Fauna of the locality of which it treats. — J. A. A.

**BIRDS OF CENTRAL NEW YORK.** — Through the kindness of the author we have received a catalogue of the birds of Cayuga, Seneca, and Wayne Counties, New York,† published in the "Auburn Daily Advertiser" (newspaper), of Auburn, New York. The list contains one hundred and

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\* A Catalogue of the Birds of the Vicinity of Cincinnati, with Notes. By Frank W. Langdon. 8vo. pp. 18. Salem, Mass. : The Naturalists' Agency. 1877.

† A Partial Catalogue of the Birds of Central New York, from observations taken in the Counties of Cayuga, Seneca, and Wayne by Mr. H. G. Fowler, of Auburn, N. Y., and from the Cabinet of Skins of New York Birds collected by Mr. J. B. Gilbert, of Penn Yan, Yates County. Divided and arranged in accordance with the "Check List of North American Birds," by Elliott Coues, M. D., U. S. A., and dedicated to the Cayuga Historical Society. By Frank B. Rathbun. Auburn Daily Advertiser (newspaper) of August 14, 1877.

ninety-one species, with brief notes on their relative abundance, times of migration, etc. The list bears evidence of trustworthiness, and we would gladly see it reproduced in a more permanent and accessible form. It appears to be a reprint of Mr. H. G. Fowler's list in "Forest and Stream" (Vols. VI and VII, 1876), with the addition of quite a number of species, and additional observations on others. In this list we find *Anthus ludovicianus* recorded as breeding ("a few remain and breed") in New York, the authority being Mr. J. B. Gilbert, of Penn Yan, Yates County, New York. We know not as yet on what evidence the record of so improbable an occurrence is made, but would suggest that it certainly needs strong backing, the locality being climatically and topographically so wholly unlike that usually chosen by this exceedingly boreal species as its breeding station. In a later issue of the same paper (September 6, 1877), Mr. Rathbun adds further remarks on *Dendreca cerulea*, and Dr. T. J. Wilson on sixteen species, including a few species not given by Mr. Rathbun.—J. A. A.

**BROWN ON THE DISTRIBUTION OF BIRDS IN NORTH-EUROPEAN RUSSIA**  
—During the last year (1877) Mr. J. A. Harvie Brown has contributed a series of important papers upon the distribution of birds in "North Russia,"\* in which all information at present accessible is epitomized in a series of tables through the use of arbitrary signs or "symbols." The first paper relates to the region of the Lower Petchora, explored by himself and Mr. Seeböhm, and is supplementary to a joint paper by these gentlemen published in the "Ibis" for 1876 (January, April, July, and October). Parts II and III treat of the general range of the birds in European Russia, north of the parallels of 58° to 60°, in which are presented in tabulated form the records relating to this extensive region. The area considered embraces (contrary to what the above-given titles might imply) only that portion of the Russian Empire west of the Ural Mountains, and north of about the latitude of St. Petersburg. This is divided latitudinally, near the parallel of 64° 30', into two regions, a northern and a southern, and these are again each divided longitudinally into three regions. By means of a system of symbols the range of each of the two hundred and eighty-one positively identified or *authentic* species is given in tables, in such a way as to indicate the abundance or scarcity of the species in each of the several districts. This system of presentation is perhaps as satisfactory as any that can be devised short of graphic repre-

\* On the Distribution of Birds in North Russia. Part I. On the Distribution of Birds of the Lower Petchora, in Northeast Russia. Part II. Longitudinal Distribution of Species North of 64° 30' N. lat., or the Northern Division. Part III. On the Longitudinal Distribution of the Birds of the Southern Division (between 64 $\frac{1}{2}$ ° N. and 58° - 60° N.). By J. A. Harvie Brown. *Annals and Magazine of Natural History*, April, July, and September, 1877.

sentation by maps, and is well worthy of careful consideration on the part of those interested in the detailed study of the geographical distribution of animals. In addition to the tables a descriptive list of authorities is given, to which references are made by numbers in the tables, as also a long list of "Notes and Criticisms of Doubtful Records," to which are also references in the tables. We have thus here presented the bibliography of the subject, a summary of the facts, and a critical discussion of doubtful records, based on a thorough elaboration of all accessible means of information. It is good work in a most important direction; the method is novel and ingenious, and the results may be grasped at a single glance. It is to be hoped that Mr. Brown will soon extend his labors to other regions, and that there will be presently numerous followers in the same line of research. The number of circumpolar species (nearly fifty) embraced in these lists render these papers of special interest to students who commonly confine their attention to the birds of the North American Region. — J. A. A.

**SUMMER BIRDS OF THE ADIRONDACKS.** — Messrs. Roosevelt and Minot have published a very acceptable list of the summer birds of the Adirondacks,\* embracing ninety-seven species, with short notes respecting their abundance, — the first list known to us of the summer birds of this ornithologically little-explored region. — J. A. A.

**BIRDS OF SOUTHERN ILLINOIS.** — Ornithologists are indebted to Mr. E. W. Nelson for a second important paper on the "Birds of Illinois."† Although less elaborate and comprehensive than his former "Birds of Northeastern Illinois" (noticed in this Bulletin, Vol. II, p. 68), it contains much information respecting the distribution, habits, and relative abundance of the summer birds of the southern portion of the same State. It is based on observations made chiefly in July and August, and gives partial lists of the birds of several localities in Richland and Union Counties, embracing altogether notices of one hundred and thirty-three species. Mr. Nelson left some months since for a protracted sojourn in Alaska, where, it is hoped, he will find leisure for much ornithological work in connection with his duties as United States Signal Officer at St. Michael's. His intelligent labors in Illinois lead us to expect that no opportunity of further increasing our knowledge of the ornithology of a region so little known as Alaska will be neglected. — J. A. A.

**GENTRY'S "LIFE-HISTORIES OF THE BIRDS OF EASTERN PENNSYLVANIA."** — Mr. Gentry has recently brought out the second volume of his

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\* The Summer Birds of the Adirondacks in Franklin County, N. Y. By Theodore Roosevelt, Jr., and H. D. Minot. 8vo. pp. 4. 1877.

† Notes upon Birds observed in Southern Illinois, between July 17 and September 4, 1875. By E. W. Nelson. Bulletin of the Essex Institute, Vol. IX, pp. 32-65, June, 1877.

"Life-Histories," \* carrying the subject from the Crows (*Corvidæ*) to the Waders, these and the Swimming Birds being reserved for treatment in a third volume. This volume differs little in general character from the first. It abounds in original observations, combined with much that is gleaned from other authors. The nature of the food of the different species has received at Mr. Gentry's hands very careful attention, his pages fairly bristling with the technical names of the various species of insects and plants, the fragments of which he has detected in examining the contents of their stomachs. The freer use of vernacular names, in the case of the more common and well-known species, would doubtless have added interest to his extensive "bills of fare" for the non-scientific reader. The occasional adoption of such familiar terms as red-legged locust or "grasshopper," black cricket, sulphur butterfly, cankerworm, pine weevil, etc., in place of the ever-recurring *Caloptenus femur-rubrum*, *Acheta nigra*, *Colias philodice*, *Anisopteryx vernata* and *A. pometaria*, *Hylobius pales*, etc., or chestnut, oak, alder, birch, woodbine-honeysuckle, and strawberry, to take mild examples, instead of *Castanea*, *Quercus*, *Alnus*, *Betula*, *Lonicera periclymenum*, *Fragaria virginiana*, etc., would certainly have savored less of pedantry, and been far more intelligible to ordinary readers. Mr. Gentry is evidently a friend and admirer of the feathered tribes, and often describes their habits most minutely, especially in relation to their nidification. Despite some faults of execution, the work before us contributes much of value respecting the habits of our birds, and records many interesting points in their history not given by previous writers. — J. A. A.

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## General Notes.

1. THREE ADDITIONS TO THE AVIFAUNA OF NORTH AMERICA. — Mr. Lucien M. Turner, United States Signal Officer, stationed for the past three years at St. Michael's, Norton Sound, Alaska, collected during his residence at that post a considerable series of birds, among which are the following species not previously recorded from this continent:—

1. **Parus cinctus**, Bodd. (= *sibiricus*, Gmel. et auct.). — A species very closely resembling *P. hudsonicus*, but differing in having the whole side of the neck pure white instead of ashy, conspicuous white edging to remiges and rectrices, and other minor features. Found in company with *P. hudsonicus*, and not rare, though less common than the latter. Several specimens obtained at St. Michael's, March 15, 1875.

2. **Syrnium lapponicum**, Retz. — A specimen obtained at the Yukon delta, April 15, 1876. This form resembles *S. cinereum*, which was also obtained in the same locality, but is very much paler colored.

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\* Life-Histories of the Birds of Eastern Pennsylvania. By Thomas G. Gentry. Vol. II, 8vo, pp. 336. The Naturalist's Agency, Salem, Mass. 1877.

3. *Surnia ulula*, Linn.—St. Michael's, October, 1876, said to be very rare. This bird also differs from its American representative, *S. funeralis*, Linn.—(*S. ulula* var. *hudsonia*, B. B. & R., Hist. N. Am. Birds, III, p. 75) in the great predominance of white on the plumage.

Owing to the arduous nature of his duties as Signal Observer, which necessitated his presence at or near the post the whole time, Mr. Turner was not able to pay as much attention to the natural history of the region as could be desired, and had to depend in a great measure upon the natives for the specimens which he secured. The results of his endeavors, however, are, considering the circumstances, very satisfactory. He found *Sterna aleutica*, of which but a single specimen had been collected, very numerous, and obtained a good series of both skins and eggs. *Budytus flava* was also exceedingly abundant, and its nest and eggs secured, besides many skins of both adult and young birds.—ROBERT RIDGWAY, Washington, D. C.

THE ROCK PTARMIGAN (*Lagopus rupestris*) IN THE ALEUTIAN ISLANDS.

—In the Proceedings of the California Academy of Sciences, February 8, 1873, in a paper entitled "Notes on the Avifauna of the Aleutian Islands, from Unalashka eastward," Mr. W. H. Dall states that *Lagopus albus* is a "resident from the Shumagins to Unalashka," and adds: "I made inquiries in regard to *L. rupestris*, but could get no information, and do not think the species is found in the islands." In a second paper on the Avifauna of the Aleutian Islands west of Unalashka, in the Proceedings of the same society, March 14, 1874, he states that *L. albus* is "more or less abundant in all the Aleutian Islands," and that, "from careful examination of many specimens, most of which were killed for the table, I feel sure that this is the only species of Grouse found on the islands, and I believe there is no authenticated instance of the occurrence of *L. rupestris* west of the 156th meridian."

From my own observations I am led to believe that Mr. Dall has mistaken *L. rupestris* for *L. albus*, since I found the former to be very numerous at Unalashka during portions of May and June, 1877, and I also found them common on the Akoutan Islands east of Unalashka, and by inquiry among the residents of the islands, both native and foreign, I could only learn of the occurrence of this species. I was informed, however, that another species of Ptarmigan is found on the peninsula of Alaska.

Since arriving at St. Michael's, I learn from Mr. Turner, who has been collecting at this place for the last three years, that *L. rupestris* is common in the vicinity of St. Michael's, being as numerous as *L. albus* on the hills of the neighboring mainland. He also informs me that on a single mountain on Stewart Island, about twenty-five miles from the mainland, this species is quite numerous. In all of the above-named places the bird breeds and is resident throughout the year.—E. W. NELSON, St. Michael's, Alaska.

**COTURNICULUS HENSLOWI IN NEW HAMPSHIRE.**—As the northern range of Henslow's Sparrow has not previously been recorded beyond the Massachusetts line, the following notes, which have been kindly placed at my disposal by Mr. Chas. F. Goodhue of Webster, N. H., will be of interest. He writes: "I detected my first specimen on April 17, 1874, in Webster, N. H., and shot another on April 26, 1875, in Boscawen, N. H. On August 16, 1877, I found several pairs in a large meadow in Salisbury, N. H. They were all apparently breeding, and I was so fortunate as to discover a nest containing four young large enough to fly. The nest, which was a bulky structure composed externally of coarse grass and lined with finer of the same, was placed in a bunch of grass where the water was about two inches in depth. These birds were not at all shy, but remained singing on some low bushes until I approached them within a few yards."

I have a specimen which Mr. Goodhue shot on Salisbury meadows, and kindly presented me.—RUTHVEN DEANE, Cambridge, Mass.

**BREEDING HABITS OF GEOCOCCYX CALIFORNIANUS.**—In 1872, while in Southern Arizona, I found some twenty nests of *Geococcyx californianus*, the first nest on April 8, the last on September 10. During the month of April, in which I found several nests, not one contained more than three eggs, although I allowed incubation to begin before taking the eggs, as I expected the birds to lay more. Nearly every nest I found after the middle of May contained four or five eggs, and I account for the greater number laid later in the season by the fact that insect food during the dry season, which includes April and May, is comparatively scarce. The birds being aware of this content themselves with rearing a small brood the first time, and a larger one at the second laying, when the young are hatched about the beginning of the rainy season, which sets in in June. At this time all kinds of insects and reptiles become exceedingly abundant, and the birds have less trouble in providing for a family of five than earlier in the season for one of three. Only occasionally have I found eggs in different stages of incubation, and I do not believe that there was over a week's difference in the time of laying of the eggs in any nests I found.

The food of this species consists chiefly of insects, particularly grasshoppers, but embraces occasionally a lizard or a field mouse. I do not believe they kill and eat rattlesnakes, as has been sometimes reported.—CHARLES BENDIRE, Camp Harney, Oregon.

**OCCURRENCE OF A SECOND SPECIMEN OF SWAINSON'S BUZZARD (*Buteo swainsoni*) IN MASSACHUSETTS.**—The claim of the above-named species to be regarded as a bird of New England has hitherto rested solely upon a specimen in melanistic plumage (formerly specifically separated as *B. insignatus*, Cassin) shot a few years since at Salem, Mass., and now in the museum of the Peabody Academy.

It is with much pleasure that I can now announce the capture of a second individual at Wayland, Mass., on or about September 12,

1876. Through the kindness of Mr. Arthur Smith of Brookline, to whom it was originally sent in the flesh, this bird has recently come into my possession. It is a young male in nearly perfect autumnal dress, and, though not typically melanistic, it still inclines strongly towards that condition. — WILLIAM BREWSTER, Cambridge, Mass.

BREEDING OF THE HOODED MERGANSER (*Mergus cucullatus*) IN FLORIDA. — In view of the fact that we have no published record of the breeding of this species in the Southern States, I was much surprised to find that it does breed in Florida, at least *occasionally*, and I think regularly.

While descending the St. John's River by steamer on March 28, 1877, I saw, near Blue Spring, a female Hooded Merganser, accompanied by a large brood of young, which were perhaps a week old. As the boat rounded a sharp bend of the river the little family, taken by surprise, was nearly run over, but after the first moment of paralyzed inaction, the mother flew heavily and reluctantly off, while the ducklings scattered in all directions, and escaped by diving. As I was standing in the steamer's bows at the time, there was no possibility of mistaking the identity of the species, for when first seen the whole brood was within ten yards of me, so near, in fact, that I could distinctly see the color of the parent's irides.

On the Wekiva River, about a week previously, I saw many Mergansers of this species, and although it did not then occur to me that they might be breeding, I now recall many circumstances that induce me to consider this not improbable. While at Pilatka, Fla., Mr. J. H. Fry showed me a number of specimens in full breeding plumage, stating that in his opinion the birds nested in the vicinity of that place. On the Wekiva the Wood Duck (*Aix sponsa*) was the only other species of *Anatidae* observed. March 19 and 20, I saw several broods of young a few days old, accompanying their mothers. As the eggs of this duck are rarely or never laid in New England before May, and oftener, I think, especially in the more Northern States, not until June, this latter fact may be not devoid of interest. — WILLIAM BREWSTER, Cambridge, Mass.

BREEDING OF THE SHORE LARK IN WESTERN NEW YORK. — The Shore Lark (*Eremophila alpestris*) is common during October, November, the latter part of February, and March, and occasionally a specimen is seen in April, but on May 29, 1876, I observed a bird of this species, with a worm in its bill, fly into a meadow, and on June 11 I found an old bird accompanied by three young ones, in a highway adjoining. The young were just able to fly. A flock, mostly composed of young birds, was seen on some ploughed land, September 1, 1876. I do not know of a previous instance of this bird's nesting in this State. — JOHN M. HOWEY, Canandaigua, N. Y.

THE NORTHERN PHALAROPE IN NORTH CAROLINA. — Dr. George H. Moran sends me a specimen of *Lobipes hyperboreus* which was lately shot on the Catawba River, near Morgantown, N. C. The capture is interesting

from the southerly and inland character of the locality. The specimen is in incomplete breeding dress. — ELLIOTT COUES, Washington, D. C.

**RELAYING OF HAWKS IN THE SAME NEST WHEN ROBBED.** — In an old partly decayed chestnut-tree, at a locality in Southeastern Pennsylvania, was found, in the spring of 1872, the nest of a Sparrow-Hawk (*Tinnunculus sparverius*). From this tree, at intervals of about ten days, were taken three sets of five eggs each, making fifteen in all. The first and second sets were taken from the same hole. In the spring of 1873, from the same hole from which sets one and two of the previous year were removed, were taken, April 24, five eggs ; on May 6, from the same hole, four more eggs ; on May 23, from the same hole, two eggs, and two others were left. On May 29, when the nest was again visited, another egg had been deposited, making, for this season, also, a total of fifteen eggs, deposited by the same pair of Hawks. The last eggs laid vary greatly from those laid earlier. Two of them are much smaller, measuring  $1.41 \times 1.19$  and  $1.31 \times 1.10$ , while the average size of the earlier laid eggs is about  $1.44 \times 1.20$ . The greatest difference, however, is in color, two of the last laid eggs (the smallest) being slightly marked, one being almost white.

In the spring of 1874, from a nest of a Cooper's Hawk (*Accipiter cooperii*) four eggs were taken on April 24 ; May 5, two more eggs were taken from the same nest ; and May 11, two others. Later in the season (about August 1), on visiting the same locality, two young Hawks of this species were seen, but I do not know that they were reared in this old nest. — C. J. PENNOCK.

**THE WILLOW GROUSE IN NEW YORK.** — Mr. Romeyn B. Hough, Cornell University, Ithaca, N. Y., writes : "Not finding the Willow Grouse (*Lagopus albus*) hitherto credited to the State of New York, I take the liberty of informing you that there is one in my collection which was taken in Watson, Lewis County, on May 22, 1876. It was killed by the person who brought it to me, who said that it was the only one he saw, and that it was not very shy. It was a male, changing plumage, — mostly white, but with brown head and neck. This is the first instance that has come to my certain knowledge, though I have heard of some lumbermen catching in winter what they called a 'White Partridge,' and which was probably a Ptarmigan, though possibly an albino Spruce or Ruffed Grouse." — ELLIOTT COUES, Washington, D. C.

**PILO ERYTHROPHTHALMUS WITH SPOTTED SCAPULARS.** — Mr. P. L. Jouy, of Washington, D. C., submits to my inspection an interesting specimen of the Eastern Towhee, shot May 4, 1875, in the District of Columbia, and requests me to make a note of its peculiarities for publication in the Bulletin. The outer scapulars are distinctly and strongly marked, near the end of the outer webs, with streaks of pure white ; there is much concealed white in the black of the throat ; and in other respects, as the

extent of white on the primaries and lateral tail-feathers, the specimen resembles *P. "arcticus."* Nothing is wanting, in fact, to make it a typical "arcticus" but the spots on the wing-coverts. Another specimen, shot by the same gentleman in the same locality, also shows a trace of white on the scapulars. Examples intermediate between *erythrophthalmus* and "arcticus" have long since been noted by Baird, myself, and others, but all such hitherto known, so far as I am aware, have been from localities where the respective *habitats* of the two forms adjoin. The present case offers additional and very strong evidence against the specific distinction claimed for *P. "arcticus."* — ELLIOTT COUES, *Washington, D. C.*

[A considerable proportion of the specimens of *P. erythrophthalmus* taken by me in 1871, in the vicinity of Leavenworth, Kan. (mainly in East Leavenworth, Mo.), showed white spots on the scapulars and more white on the wings than eastern examples, thus exhibiting a decided tendency toward the characters of *P. "arcticus,"* the eastern limit of the range of which, in its typical aspect, is the eastern base of the Rocky Mountains in Colorado, some six hundred miles west of Leavenworth. — J. A. ALLEN.]

**VIREO VICINIOR IN CALIFORNIA.** — I have found this Vireo to be not uncommon in the vicinity of Campo, San Diego Co., Cal., fifty miles east of San Diego Bay. It ranges through the mountains from the lower limit of the pines down to about an altitude of three thousand feet. It is found in thick low brush, very seldom going into or near trees. I have never met with more than three together, having generally met with them singly. They are shy and active, keep near the ground, and usually search a bush thoroughly before leaving it, although not always going to the top. On leaving the bush they commonly fly several yards before alighting in another. They sing pretty steadily, the song consisting of a couple of syllables repeated with different inflections, something like *chu-vee*, *chu-we'e* *chu-we'e*, generally pausing a little after three or four notes. Sometimes the order is reversed. This seems to be the song of the male, as the only female that I am positive of having heard, sung more like *V. pusillus*. Sometimes when alarmed they will scold like a Wren. When near to them, as they are singing, a sort of whistling sound can be heard between the notes. I have never seen them catching insects in the air, as some other Vireos do, but have observed them scratching on the ground like a *Pipilo*.

The colors are not so bleached as in specimens I have seen in New Mexico, nor do the birds frequent the trees so much as those. I had hoped to get a nest, as it is unknown, but have failed so far. They first appeared about March 24, and as their numbers seen have varied but little since the beginning of April till the present time (middle of June), they probably do not go much farther north, which may account for their not having been found in California before. — F. STEPHENS, *Campo, Cal.*

**NEST AND EGGS OF ZONOTRICHIA CORONATA.** — The nest and eggs of this species have hitherto escaped the notice of collectors, and are, so far

as I am aware, unknown to the public. I have in my possession a nest which with its eggs — then four in number — was taken by Mr. Ludovic Kumlien in Shasta County, California, the female having been shot from the nest. The eggs measure from .80 to .82 of an inch in length, and from .64 to .67 in breadth. They are of a rounded oval shape, and are but slightly more obtuse at one end than at the other. Their ground-color is a light green, and is generally plainly visible, as the markings of reddish and of golden-brown, with which the whole surface is pretty uniformly flecked in small and well-distributed blotches, are nowhere numerous or confluent. The eggs closely resemble very lightly marked specimens of *Zonotrichia albicollis*, but are slightly smaller and more nearly spheroidal in shape.

The nest has an outer diameter of five inches and a height of three. The cavity is two and a half inches deep, with a diameter, at the rim, of the same. Its outer portions and base are made of thin strips of bark, skeleton leaves, and coarse stalks and stems of plants, reeds, and *Equisetaceæ*. It is very strongly and thoroughly lined with fine wiry rootlets of plants. It was found, June 14, 1877, on the banks of the McCloud. — T. M. BREWER, *Boston, Mass.*

NOTE ON *DENDRICA DOMINICA*. — In an article upon *Dendraca dominica*, in the October number of the "Bulletin" I took occasion to express serious doubts as to the correct identification of certain alleged nests of that Warbler collected by Mr. N. C. Giles at Wilmington, N. C., and upon which most of the recent descriptions of the nidification of the species were based. My attention has since been called by Dr. Brewer to his supplementary note in the Appendix of the "History of North American Birds" (Vol. III, p. 505), where further mention is made of Mr. Giles's specimens, and he also informs me by letter that some of the specimens recently sent to the Smithsonian Institution by Mr. Giles have been accompanied by skins of the parent birds, thus setting at rest all doubts which he had previously entertained. I take this opportunity to express my regret at having cast any doubts upon Mr. Giles's identification. — W. BREWSTER.

EASTWARD RANGE OF *CHONDESTES GRAMMACA*. — On the morning of the 27th of August I saw in the grounds of the Smithsonian Institution a pair of the above-named Sparrows, the only ones I ever saw in the District of Columbia or vicinity. They were adults, and when first seen flew up before me, expanding their white-tipped tails as they flew, and alighted in the gravelly roadway about two rods in advance; then ran along the ground, Lark-like, as is the characteristic habit of the species, now and then giving chase to a grasshopper, which they usually captured on the wing. Although originally a western bird, this species seems to be steadily extending its range to the eastward over those portions of the country most denuded of timber. According to Dr. Wheaton (see Coues's "Birds of

the Northwest," p. 234), it made its advent into Ohio about the year 1860, since which time it has gradually increased in numbers, until it is now a common summer resident (see Ohio Agricultural Report for 1874, p. 566). In the semi-prairie districts of Indiana, Illinois, and adjacent States, it has become generally dispersed, being now common in the cleared portions surrounded by heavy forests, and where a few years ago was dense and continuous woodland. It has already been captured in Florida (the National Museum possessing a specimen from that State), and should be carefully looked for in other sections of the Eastern States. — ROBERT RIDGWAY, *Washington, D. C.*

THE LARK-FINCH (*Chondestes grammica*) AGAIN IN MASSACHUSETTS. — On November 25, 1877, I had the pleasure of seeing in the flesh a female bird of this species, taken the previous day near the residence of Mr. C. J. Maynard, Newtonville, who notified me of the fact, and has since kindly presented me with the skin. The bird was brought to him by a boy very soon after it was shot, who stated it was in company with another of the same kind. Mr. Maynard went immediately in search, but only Tree Sparrows and a flock of Snow Buntings were to be seen. The Lark Finch is a rare bird east of the Ohio River, and there is but one previous record for this State or New England, namely, a specimen found in Gloucester about 1845 (Proc. Esa. Inst., Vol. I, 1856, p. 224). — H. A. PURDIE, *Newton, Mass.*

A THIRD SPECIMEN OF *HELMINTHOPHAGA LEUCOBRONCHIALIS*. — Last winter, while working among the Warblers (*Sylvicolidae*), in the collection of the Philadelphia Academy of Natural Sciences, I discovered among them a specimen of the White-throated Warbler (*Helminthophaga leucobronchialis*, Brewster), which, according to some writing on the bottom of its stand, had been in the dark for nearly fifteen years. The writing was this: "J. C., 20 October, 1862," and also what I made out to be, "Not from Bell," which was much blurred. The "J. C.," which means John Cassin (for it is his handwriting), shows that he once possessed or had something to do with the specimen, but how it ever escaped his notice and found its way into the collection of the Academy without being discovered I cannot see. The other is, I suppose, the date of its capture; and it is curious that it should have been taken so long before the one which for several years was the only known representative of the species. No label was attached to it designating the locality where it was procured, its sex or species; but by careful comparison with Mr. Brewster's description, as well as with Mr. Wood's specimen, I can safely say that it is a genuine specimen of *H. leucobronchialis*, and still further proves the validity of the species. As the first two were males, and as this specimen closely resembles them, I judge it to be a male also. A paper which I wrote on this specimen was read before the Academy, at a recent meeting, and will be published in their Proceedings.

I may further add that I have searched the Reports and record of donations to the Academy from 1862 to 1875, without finding any reference to this specimen. — SPENCER TROTTER, *Philadelphia, Pa.*

THE BLACK-THROATED BUNTING (*Euspiza americana*) NESTING IN MASSACHUSETTS. — Mr. Frank E. Bean of Medford has called my attention to a nest and four eggs of this bird found by him in the above town on the 9th of June, 1877, at which date the eggs were fresh. The nest, seemingly large for the species, was supported about a foot from the ground by the stem of a bush and the blades of the grass-clump in which it was placed. Both nest and eggs are quite typical. Towards the last of June he found, in another locality, a second nest containing four young. This was in a field bordering the highway; the song of the male bird perched on the fence-rails hard by first attracted his attention, and both birds were soon seen feeding the nestlings. Mr. Bean thinks that more than these two pairs may have raised young in his vicinity, as he has heard other birds in this and previous years. But few instances of the nesting of the Black-throated Bunting in Massachusetts are known, and it is to be hoped that this bird of "neat plumage" and "trim form," so common in the Middle and Western States, where it is known as the "Little Field Lark," "Dick-sissel" and "Judas-Bird," will gradually become a permanent resident of our fields and bushy pastures. — H. A. PURDIE, *Newton, Mass.*

THE BLUE-GRAY GNATCATCHER (*Polioptila cærulea*) IN MASSACHUSETTS. — Through the kindness of Mr. Arthur Smith of Brookline I am enabled to add this species to our list of Massachusetts Birds. On the 18th of November, 1877, he noticed a bird flying about in a small orchard at Chatham (Cape Cod), but was unable to identify it, and failed to procure the specimen. A few days later his friend, Mr. Stephen Decatur, shot a female *P. cærulea* in the same locality, which was undoubtedly the same specimen, as Mr. Smith has preserved it and recognizes it as the species seen by himself.

A few specimens have been taken in Rhode Island, though it is but recently that the Gnatcatcher has been recorded as a bird of New England. — RUTHVEN DEANE, *Cambridge, Mass.*

THE CAPTURE OF SEVERAL RARE BIRDS NEAR WEST POINT, NEW YORK. — 1. *Corvus ossifragus*, Wilson. On the 7th of May, 1877, as I was walking up from the river, my attention was attracted to the very singular utterance of a Crow that sat on an oak-tree in front of Mr. Pell's house. Its note was a hollow, guttural croak, quite unlike the cawing of the common species (*Corvus americanus*). I regarded the bird curiously for several moments, but as I had never before heard the note of the Fish Crow, I passed on, attributing this singular vocal demonstration to some uncommonly strong emotion, — perhaps it was a parent bird whose nest I had spoiled, not far from that place, several days previous. Accepting

this conclusion as satisfactory, I should soon have forgotten the circumstance, had not the bird itself acted in such a manner as to dispel the illusion. It flew before me, and alighted upon a tree far over on the other side of the highway, where it crooked most dismally. When I had reached the highway before climbing over the stone-wall, I noticed that the Crow had again taken flight, and as it was flying somewhat in my direction, I knelt behind the wall, hoping thus to obtain a shot. When I ventured to look out, I saw the bird soaring in circles not far away. Soon it approached me, but soaring very high in the air. When it got directly overhead, I fired; it fell to the ground, close beside me, reeling and struggling violently all the distance. When I reached it I was both surprised and delighted to find a fine female example of the Fish Crow. This is, I believe, the most northerly record of the capture of this species in the State, though they have been taken on Long Island, where my friend, Mr. Theodore Roosevelt, informed me he took a single specimen.

2. *Helminthophaga celata*, (Say) Baird. On May 13, 1875, I shot a beautiful male of this rare species, as it was skipping among the apple-blossoms, close to my house, in company with a little band of Warblers which may have belonged to the same species.

3. *Dendrocoxa caerulea*, (Wilson) Baird. I secured a fine male of this beautiful species, near my residence, May 17, 1875.

4. *Vireo philadelphicus*, Cassin. I have a single male specimen of this scarce species in my collection, taken near here. It was shot by my friend, Mr. William K. Lente, at Cold Spring, as it hopped about in a tree-top, September 24, 1875. This example exhibits the intensity of yellow color on the under parts which characterizes the *autumnal plumage*.

5. *Stelgidopteryx serripennis*, (Audubon) Baird. I have found this Swallow on but one occasion, in May, 1872, when a single pair nested in this neighborhood, in a bank close to a stable, beside a pond. I watched this pair while they constructed their nest, during which time they were often seen to alight close together, on a board-fence from which they descended after the rough materials of which the nest was composed, — hay and feathers. Late in May I captured the female sitting upon four fresh eggs. I had no difficulty in doing this, for the hole was quite large, and not very deep, so that, by baring my arm, I could easily introduce it to the back of the hole. These eggs are pure white, and one of them measures .80×.53 of an inch.

6. *Ampelis garrulus*, Gmel. Dr. Frederic Lente, of Cold Spring, showed me a beautiful Waxwing of this species which was shot near his residence, several winters before.

His son, Wm. K. Lente, informed me that he shot at several Bohemian Waxwings that sat in an evergreen tree close to their house. This occurred several years after the first specimen was taken. — EDGAR A. MEARNS, *Highland Falls, New York*.

THE FISH CROW (*Corvus ossifragus*, Wils.), ON LONG ISLAND.—On the 17th July, 1873, I shot a fine female of this species near Rockaway, L. I. The bird was flying around, but kept apart from a flock of common Crows in the vicinity. The bird is not mentioned in Giraud's "Birds of Long Island," although Samuels, in "Birds of New England," says, "I understand that it has been taken on Long Island."—C. H. EAGLE.

[These two recent captures of the Fish Crow by Messrs. Eagle and Roosevelt (see above p. 46) confirm the statement made long since by De Kay, that "they are occasionally seen on the shores of Long Island, but are generally confounded with the Common Crow" (New York Zool., Pt. II, 1844, p. 135), which seems to have hitherto been the basis of all references to its occurrence in that locality, and, in connection with Linsley's record of its occurrence at Stratford, Conn. (Am. Journ. Sci. and Arts, Vol. XLIV, 1843, p. 260), of its *presumed* occurrence in *Southern* New England. Although recently observed by Mr. Brewster in Cambridge, Mass. (see this Bulletin, Vol. I, p. 19), there appears to be as yet no unquestioned record of its capture in New England, where it doubtless occasionally occurs.—J. A. ALLEN.]

CORRECTION.—On page 137 of my late "Review of the Birds of Connecticut," mention is made of the capture of half a dozen specimens of *Podiceps cristatus* in Connecticut. My attention having been called, through the kindness of Dr. Brewer, to the improbability of its occurrence at all within our limits, I immediately made inquiry of my friend, John H. Sage, Esq., of Portland, Conn., concerning the identity of the specimens in question. He writes me that a thorough re-examination of the birds proves them all to be more or less immature examples of *P. griseigena*, var. *holbotti*.—C. HART MERRIAM.

MELANISM OF *TURDUS MIGRATORIUS*.—Another\* case of this affection, much less frequent (except in *Falconidae*) than leucism, comes to my knowledge through the attention of Mr. G. A. Boardman, who desires me to make a note of it for the "Bulletin." The young Robin, "as black as a Grackle," is still living in Mr. Boardman's possession. About two months ago this ornithologist heard of a nest of black Robins being taken at St. John's, and wrote to the owner or collector about it. The person, however, lost his life in the great fire which occurred there, and Mr. Boardman, not liking to trouble the family by writing under such circumstances, went to St. John's and inquired about the black Robins. The story proved true, and one of the birds was purchased. "When I first got the bird," writes Mr. Boardman, "he was in pretty good plumage, but his feathers are now half out, and I am hoping that he will not disappoint me by coming out red. Most of the feathers on his head and neck are new, I think, and jet black. His tail is now gone, but that was pure black too.

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\* See this Bulletin, Vol. I, No. 1, April, 1876, p. 24.

I see no signs of the normal plumage." Mr. Boardman writes me later, under date of September 23, that he has been much interested in watching the moult of the black Robin, and says, "He acts as if he were going to be an albino. His new tail is about half grown out, and is nearly white, with a black stripe down each feather. His breast, head, neck, and back are jet black, but very much out of feather. He would now make a funny specimen, — part albinic, part melanistic." The parents of these young were not peculiar in color. — ELLIOTT COUES, *Washington, D. C.*

[NOTE (December 15, 1877). Since this paragraph was penned, the bird has been killed, stuffed, and sent to the Smithsonian, where I have seen it. It is black, with white wings and tail. — E. C.]

THE SEASIDE FINCH (*Ammodramus maritimus*) IN EASTERN MASSACHUSETTS. — As the existence of this species in Massachusetts has been challenged, and none are known to have occurred for a number of years, it would seem not amiss to mention that a single specimen of this species was shot by Mr. George O. Welch at Nahant in August last. It was in company with a number of *A. caudacutus*, but was the only one of its kind. It was in the not common plumage described by Audubon as a distinct species under the name of *Ammodramus macgillivrayi*, was sent to Professor Baird, who found it closely corresponding to Audubon's type, which he possesses. It was a young male, and appeared to have come from the north. In "History of North American Birds" (Vol. I, p. 560) it is given as not occurring north of Long Island Sound.

In this connection it may not be uninteresting to add that Mr. Welch found *Ammodramus caudacutus* quite abundant on the shores of St. Andrew's Bay, the estuary of St. Croix River, and lying between the eastern boundary of Maine and New Brunswick. This, if I am not mistaken, is the first time that it has been taken in Maine so far to the east, and not at all, except that Mr. N. C. Brown (this Bulletin, Vol. II, p. 27) obtained a single specimen in Scarborough. Mr. Brewster (*ibid.*, p. 28), on the authority of Mr. William Stone, mentions it as abundant at Tignish, Prince Edward Island. — T. M. BREWER, *Boston, Mass.*

THE LARK-BUNTING (*Calamospiza bicolor*) IN MASSACHUSETTS. — The first instance known to me of the capture of this species east of the Mississippi River occurred on December 5, 1877, when a specimen was shot by Mr. N. A. Vickary at Lynn, Mass., — a male in autumnal plumage. Its usual eastern limit is well known to be the plains of middle Kansas, where it ranges eastward to about, or possibly a little beyond, Fort Harker. The specimen has been kindly shown me by Mr. Vickary, to whom I am indebted for a knowledge of its capture. — J. A. ALLEN, *Cambridge, Mass.*

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CHANGES IN OUR NORTH AMERICAN FAUNA.

BY T. M. BREWER.

I PROPOSE four changes in our list of North American Birds as now accepted: three additions and one subtraction; the addition of *Totanus ochropus*, *Ægialitis hiaticula*, and *Larus canus*, and the rejection from the list of *Podiceps cristatus*.

**Totanus ochropus**, Linn. **GREEN SANDPIPER.** This species, the *Tringa ochropus* of Linnaeus, Gmelin, etc., the *Totanus ochropus* of Temminck, the *Helodromas* of Kaup, the White-tailed Tatler of Nuttall, and the Green Sandpiper of Dresser, and other more recent authors, is entitled to a restoration to its place in the list of North American birds, on the indisputable authority of T. Edmund Harting, Esq., of London. This gentleman, in March, 1873, informed Professor Baird, by letter, that he had then recently received from Mr. H. Whitely, a perfectly trustworthy dealer of Woolwich, a small parcel of North American skins that had just been sent to him from Halifax, Nova Scotia. Among these was an example of this species. Upon inquiry Mr. Harting was assured by Mr. Whitely that the skin actually came to him from Halifax, and that it had been there prepared from a bird in the flesh. Mr. Harting regarded it as "the first *authentic* instance of the occurrence of the *Totanus ochropus* in North America." Nevertheless this species had previously been included by Mr. Nuttall (Water Birds, p. 157) as one of the birds of North America, based upon an unverified claim that two specimens had been taken at Hudson's Bay, a statement also accepted by Richardson in the "Fauna Boreali-Americana"

(II, p. 392). These claims not being accepted as authentic, the supposed examples being attributed to our *Rhyacophilus solitarius*, the Green Tatler was not included by Mr. Cassin in the ninth volume of the Pacific Railroad Reports. The very close resemblance of these two species, *T. ochropus* and *T. solitarius*, both in regard to their physical structure and their general habits, — a resemblance so close that, although Kaup refers the two species to different genera, a suspicion of their being only varieties of one species has suggested itself to at least one of my "variety" loving friends, — seems to warrant us in looking for nearly identical habits in their mode of nesting. The recently ascertained fact that the *T. ochropus* nests in trees, making use of the deserted nests of Hawks, Crows, Jays, and other birds, makes it apparently worth the while of our own collectors to ascertain if our *solitarius* has not the same habits, and perhaps explains why it is that we have so long suffered the egg of this species to remain undiscovered. I have never yet seen a single well-authenticated example of its egg. All purporting to be eggs of this species were referable either to *Agialitis vocifera* or to *Tringoides macularius*, generally the latter. It may be, therefore, that we have not looked for the eggs of the solitary Tatler in the right place, and that "Excelsior" should be the motto of those who would succeed in their researches for authentic specimens. So far the eggs credited to the *T. solitarius* bear a very suspicious resemblance to one of the two species mentioned. Naturally an egg of the solitary Tatler should more resemble in size, shape, and markings an egg of *T. ochropus*, which is oblong in shape, 1.50 in length, and somewhat similar to eggs of *Gambetta flavipes*. The egg of the *Tringoides macularius*, which in many cabinets does duty for that of *T. solitarius*, is of a rounded oval, and only about 1.10 inches long.

**Larus canus**, Linn. EUROPEAN SEA-MEW. This species is included by Nuttall as a North American bird (Water Birds, p. 299). It is so given also by Bonaparte (Syn. 1828, No. 296), and by Richardson (Faun. Bor. Am. II, p. 420), but the last two are regarded by Mr. Lawrence as synomynes for *Larus delawarensis*, Ord. There appears to be, at least up to the present time, no authentic record of the European *Larus canus* in North America, unless we accept *Larus brachyrhynchus* as a variety of the European bird, and not as having specific distinctness.

In June, 1876, my attention was called by Howard Saunders

Esq., of London, to a specimen which he had fully identified as the true European *Larus canus*. Its label indicated that it had been taken on the coast of Labrador in 1860 by Dr. Elliott Coues,—given by that gentleman to the Smithsonian collection,—and that it had been labelled by him some seventeen years ago as *Larus delawarensis*. It passed into the possession of Mr. John Krider of Philadelphia, by him was sold with other skins to a dealer in London, where, fortunately for the preservation of the record, it was found, identified, and secured by Mr. Saunders, who had at once recognized it as indisputably the European Sea-Mew. As Mr. Saunders has announced his intention of restoring the specimen where, in his judgment, it properly belongs, to the Smithsonian collection, if any doubt is felt as to its identity, there will be full opportunity for testing it. It is regarded by Mr. Saunders as the only authentic instance, on record, of the procuring the true *L. canus* in North America.

***Ægialitis hiaticula.*** RINGED PLOVER. The capture of one of this species, a female, by H. W. Feilden, of the British Arctic Expedition of 1875–76, under circumstances that leave no doubt it was nesting in the neighborhood, places it once more, and this time beyond dispute, among the birds of North America.\* The individual in question was taken August 4, 1875, on the beach bordering the valley of the Twin glacier, in Buchanan Strait, latitude 78° 48' N. Its more or less common presence in Greenland has been known for some time, as also its being migratory, in high northern latitudes, and there breeding; occurring there, according to Hewitson, from March to October, and, according to Linnæus, reaching even the Lapland Alps. Scoresby, in his Journal, mentions having met with this species on the eastern coast of Greenland, and more recently other arctic explorers have observed them on the western coast of the same island, at Prince Regent's Inlet and at Hecla Cove. Professor Newton is authority for its breeding generally throughout Greenland, and for its being also found on Sabine and Clavering Islands. It is stated to be abundant on the shores of Possession Bay as well as Regent's Inlet. It was taken by Professor Torell on the Seven Islands, in latitude 80° 45' N., which was, before the recent British expedition, the highest known range of any shore bird. Since then *Strepsilas*

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\* Wilson includes "*Charadrius hiaticula*" among American birds, but his example was, without question, the *semipalmatus* in its spring plumage.

*interpresa* has been observed as late as September 5 in latitude 82° 30' N., *Calidris arenaria*, with nest and eggs, in latitude 82° 33' N., *Phalaropus fulicarius* in latitude 82° 27', and *Tringa canutus* in latitude 82° 33' N.

**Podiceps cristatus**, Latham. CRESTED GREBE. This has been counted as a North American bird by Bonaparte (Syn. p. 417), by Richardson (Faun. Bor. Am. II, p. 410), by Nuttall (Water Birds, p. 250), by Audubon (Orn. Biog. III, 595, pl. 292), and others. It is retained by Mr. Lawrence in the ninth volume of Pacific Railroad Reports, and is even given by Dr. Coues in his "Birds of the Northwest," without any expression of doubt as to its existence in North America; indeed, he ventures the remark that he sees no difference between American and European specimens. Nevertheless it is now universally conceded that not a specimen is in existence of American origin, and that there is no authentic record of the capture of a single specimen in America. Every specimen that has been referred to this species, where in existence, proved to be either immature examples of *P. griseigena*, or to be foreign examples, and by no one is this now more cheerfully conceded than by Dr. Coues himself.

It is very obvious now, in reading Mr. Audubon's notes by the light of our present knowledge of the habits of the American form of the Red-necked Grebe, that all he wrote in reference to the supposed American *P. cristatus* relates exclusively to the former species, of which he makes but a brief mention, and with which he appeared to regard himself as unfamiliar, although it is so common about Eastport and the provinces where he spent the spring of 1833.

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#### REMARKS ON SOME OF THE BIRDS OF LEWIS COUNTY, NORTHERN NEW YORK.

BY C. HART MERRIAM.

WITH REMARKS BY A. J. DAYAN.

THE county of Lewis, though small, is interesting ornithologically, from the fact that the Canadian and Alleghanian faunæ meet within its boundaries, and that the densely wooded portion lying east of the Black River Valley constitutes the western border of

that extensive district well known to sportsmen as "John Brown's Tract," which is embraced in the "Great Adirondack Wilderness," of the northeastern portion of the State. This eastern district is characterized by a sandy soil, which supports an immense forest, chiefly of coniferous trees. In the northwestern part of the county is another large tract, called "Tug Hill," lying between Lake Ontario and the Adirondack Wilderness, which is characterized by the same class of forest-trees and the same general physical features. The eastern, or Adirondack, region is truly Canadian in its fauna; the western partially so; while the valley of the Black River and the middle portion of the county lying west of it is strictly Alleghanian.

In the eastern (Adirondack) district are found breeding *Turdus pallasi*, *T. swainsoni*, *Sitta canadensis*, *Anorthura troglodytes* var. *hyemalis*, *Dendroca caerulescens*, *D. coronata*, *D. blackburniae*, *D. maculosa*, *Geothlypis philadelphica*, *Myioictes canadensis*, *Loxia leucoptera*, *L. curvirostra* var. *americana*, *Zonotrichia albicollis*, *Junco hyemalis*, *Corvus corax*, *Perisoreus canadensis*, *Contopus borealis*, *Hylotomus pileatus*, *Picoides arcticus*, *P. americanus*, *Sphyrapicus varius*, *Tetrao canadensis*, *Ardea herodias*, *Colymbus torquatus*, and many other less characteristic species.

At my request, Mr. A. Jenings Dayan, one of our most careful, enthusiastic, and conscientious collectors, sends me the following notes concerning a few species found in the middle (Alleghanian) district of the county. When not otherwise stated, his observations pertain to the town of Lyon's Falls, in the Black River Valley.

"*Eremophila alpestris*. HORNER LARK.—A tolerably common spring migrant; a few breed. Dr. C. P. Kirley of Lowville [middle district] has kindly given me this note on its breeding: 'I first observed *Eremophila alpestris* July 16, 1876, when I shot one two-thirds grown, and saw the parents. In the same locality, June 24, 1876, I noticed a pair of old birds, and on searching for their nest, I found it not more than eighteen inches from the main road. It contained three unfledged young. Since then I have both seen and taken it during the breeding season.'

"*Helminthophaga peregrina*. TENNESSEE WARBLER.—I have taken two of this species (May 19 and 23, 1877), the only record of its occurrence in this locality.

"*Collurio ludovicianus* [var. *excubitoroides*, see below]. LOGGER-HEAD SHRIKE.—I shot a fine adult male September 24, 1877. Through the kindness of Mr. A. M. Church, I have examined a nest and five eggs of this bird, taken here May 11, 1877. He secured the female as she left the nest.

***Burnia ulula* var. *hudsonica*.** HAWK OWL.—Dr. Kirley has two specimens, male and female, taken near Lowville, October 24 and November 16, 1877.

***Lobipes hyperboreus*.** NORTHERN PHALAROPE.—I shot a young male on Black River, September 6, 1877. One other was taken about the same date, near Boonville.

***Edemias americana*.** AMERICAN BLACK SCOTER.—Saw a flock of four on Black River, September 27, 1877, and secured them all. The gizzards of all these birds were absolutely empty, with the exception of a fragment of a shell in one."

Much of interest attaches itself to the breeding of two of these species (*Eremophila alpestris* and *Collurio ludovicianus* var. *excubitoroides*) in this the northeastern portion of the State. Regarding the first of these, Dr. Coues, in his inexhaustible "Birds of the Northwest" (p. 39), says: "East of the region above specified [from Iowa and Minnesota westward] the Horned Lark is not known to breed in the United States; and the only record of its occurrence in summer which I have seen, that given by Mr. Maynard, as above [Massachusetts in July], most probably indicates a highly exceptional instance." Since the publication of the above (1874) it has been ascertained that the bird in question breeds, sparingly, in the western and central portions of the State. In the last number of this Bulletin (p. 40) Mr. John M. Howey calls attention to the fact of its breeding in the vicinity of Canandaigua, in Western New York, but states that he does not "know of a previous instance of this bird's nesting in this State," thus overlooking Mr. Rathbun's record in his "Complete List of the Birds of Cayuga, Seneca, and Wayne Counties," which appeared in the "Auburn Daily Advertiser" of August 14, 1877. Mr. Rathbun states that it is "resident and tolerably common in winter," and that "a few breed," in Central New York. Mr. Dayan's note (on the authority of Dr. C. P. Kirley) is particularly interesting, as it extends the known breeding range of the species, *within* the United States, eastward to the western border of the Adirondack Wilderness, beyond which it must pass to the northward (through St. Lawrence County) into Canada, and thence to Labrador. Whether it has for many years bred within the limits of the State of New York, or has recently extended its breeding range, as seems to be the case with the Lark Finch (*Chondestes grammacus*) and some other species, remains to be decided; I incline to the latter view. It breeds about Hamilton, Can-

ada West (McIlwraith), and abundantly along the Labrador Coast (Audubon and Coues).

Concerning the "Loggerhead Shrike," the case, though in some respects parallel with the above, is much more difficult of explanation, and has given rise to much confusion, owing to the complication arising from the close relationship existing between the Southern and Western forms. Coues, in his "Key," states that "extreme examples of *ludovicianus* and *excubitoroides* look very different, but they are observed to melt into each other when many specimens are compared, so that no specific character can be assigned," and if the doctor had substituted the term *varietal* for *specific*, he would have hit equally near the truth. The fact is, there is so little difference between Eastern examples of *excubitoroides* and the Southern bird that they have often been confounded, and it is practically almost impossible to distinguish them. My own opinion is that the locality whence the specimen came furnishes the most valuable clew to its identity. In a specimen (♂, juv.) taken by Mr. Dayan at Lyon's Falls, Lewis County, New York, September 4, 1877, the light ash of the upper parts contrasts strongly with the "dark plumbeous-ash" of typical Southern examples of *ludovicianus* in the cabinet of Mr. George N. Lawrence, to whose kindness I am indebted for the comparison, and for many other favors. In other respects the bird more closely approaches the Southern form. The Western bird breeds abundantly in Ohio (Wheaton), and was first observed in Canada West (near Hamilton) by McIlwraith about the year 1860, since which date it has bred regularly in that locality. Allen, in 1869, published in the "American Naturalist" (p. 579) the first record of its breeding in New York State ("near Buffalo"), and Rathbun (in the list above referred to) gives it as breeding at Auburn, in the central portion of the State. Fred. J. Davis, Esq., informs me that he has taken several of its nests in the vicinity of Utica, and the fact of its breeding in Lewis County (Dayan, above) completes its eastern range to the Adirondacks. Beyond this barrier it is not, to my knowledge, found, excepting as a rare straggler; and most of the New England specimens have commonly been regarded as accidental visitors from the South. Mr. Purdie, however, in this Bulletin (Vol. II, No. 1, p. 21, 1877), records the capture of a "typical" specimen of var. *excubitoroides* at Cranston, R. I., September 2, 1873, by Fred. T. Jencks. This is, so far as I am aware, the only recognized in-

stance of the capture of the Western form in New England. As a pretty conclusive proof that our New York bird has been derived from the Western (*excubitoroides*) "type," we have the fact of the continuity of its range eastward from the Mississippi to the Adirondacks (through Ohio to Buffalo, Auburn, Utica, and Lewis County, New York); while, on the other hand, its entire absence from those portions of the State where the Carolinian Fauna is most marked (notably along the Hudson River, where such characteristic birds as *Icteria virens*, *Myiodiotes mitratus*, *Helmintherus vermivorus*, and *Siurus motacilla* breed in abundance) is sufficient evidence that it is not the Southern bird. That it does not occur in the region above specified is pretty clearly shown by the fact that neither Edgar A. Mearns (of Highland Falls, near West Point) nor Eugene P. Bicknell (of Riverdale), two of our most enterprising young collectors, have ever met with even a single straggler of the genus, other than *C. borealis*, although they have both made the birds of the Hudson River Valley a special study.

(*To be continued.*)

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## DESCRIPTIONS OF THE FIRST PLUMAGE IN VARIOUS SPECIES OF NORTH AMERICAN BIRDS.

BY WILLIAM BREWSTER.

### II.\*

#### 24. *Helminthophaga chrysoptera*.

*Fall plumage*: male. Upper parts bluish-gray, washed strongly with olive-green on the back. Forehead and crown yellow, somewhat obscured by greenish streaking. Occiput bright greenish-yellow. Patch on wing clear yellow. Band through the eye and entire under parts, as in the adult. Chin, throat, and jugulum black, each feather broadly edged with soiled white. White maxillary stripes fairly meeting on anterior portion of chin. (This last feature may probably be explained by individual variation, not by age. I have seen many adults similarly characterized.)

*Fall plumage*: female. Remiges, rectrices, etc., as in adult. Pileum and nape uniform olive-green; back and rump bluish-gray, washed with

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\* For Part I, see this volume, pp. 15-23.

greenish-olive. Upper tail-coverts clear bluish-gray. Sides of head and entire under parts with a slight wash of brownish-yellow; otherwise colored like the adult. From two specimens in my collection shot at Cambridge, Mass., July 18, 1874. It may be well to mention that these birds are in somewhat transitional dress, and have hardly, perhaps, passed from the first plumage, but as the female differs but little from a specimen of the same sex in the perfected fall dress, taken August 21, 1875, I have thought it best to describe them both as in full autumnal plumage.

**25. *Helminthophaga ruficapilla.***

*First plumage:* female. Remiges, rectrices, etc., as in adult. Two conspicuous wing-bands of bright buff. Pileum and nape light ashy, tinged with fulvous. Back ashy, just touched with green; rump bright olive-green. Supra-orbital line, ring around eye, and the throat, bright buff. Lores, maxillary line, and auriculars pale ashy. Breast and crissum gamboge-yellow, each feather tipped with whitish, producing a somewhat hoary appearance. Abdomen pale yellow; sides dull cinnamon, with a shade of ashy. From a specimen in my collection taken at Upton, Me., August 14, 1873. A full series of specimens illustrates well the progressive stages. The fall plumage is very quickly acquired by young of this species.

**26. *Dendroeca virens.***

*First plumage:* male. Remiges and rectrices as in adult; greater and median wing-coverts just tipped with soiled white, forming two very narrow, indistinct wing-bands. Rest of upper parts dark slate-brown, each feather of the back edged with bright greenish. Superciliary stripes (just meeting in a narrow line on the forehead), eyelids, maxillary line, and chin, bright yellow. Sides of head dark slate; under parts soiled white, each feather on the breast and sides with a terminal spot of black; on the throat and jugulum, these spots become large blotches of dark slate, the feathers being just tipped and edged with light yellow. From a specimen in my collection shot at Cambridge, Mass., July 30, 1875. Like most of the previously described young Warblers, this bird has a narrow central line of yellow feathers extending down the throat and jugulum to the breast.

**27. *Dendroeca cærulescens.***

*First plumage:* male. Remiges and rectrices as in autumnal males, the former slightly paler in color. Rest of upper parts, including the wing-coverts, dark olive-brown; sides of head very dark brown; lores black; throat, jugulum, lower eyelids, and a very conspicuous supra-orbital line, pale buff; breast and sides ashy, tinged with olive. Abdomen, anal region, and crissum strong sulphur-yellow. White spot on base of primaries fully developed.

*First plumage:* female. Remiges and rectrices as in autumnal female.

Rest of upper parts, including wing-coverts and sides of head, light olive-brown. Lores dull black. Superciliary line, both eyelids, throat, jugulum abdominal and anal regions, with crissum, light buff. Breast and sides olive, tinged with buff. Spot on base of primaries dirty-white. From two specimens, male and female, in my collection, shot with parents at Upton, Me., August 11, 1873. The male above described shows a few black feathers on one side of the throat. Several adult females in my collection, taken both in spring and fall, lack the white wing-patch altogether. Others have it but faintly indicated.

### 28. *Dendroica coronata*.

*First plumage*: female. Upper parts, in general, dull grayish-white, tinged with brownish, heavily streaked with slaty-black, the streaks broadest on the back and narrowest on the pileum; rump soiled white, with well-defined streakings like the back. Lower parts pale lemon, tinged with brownish on the throat, narrowly but distinctly streaked with dull black over the entire surface. From a specimen in my collection, shot at Upton, Me., August 7, 1874. The first plumage of no other bird that I am acquainted with exhibits such a remarkable variation from the more mature stages. The specimen just described resembles closely, in general markings and coloration, the Pine Finch (*Chrysomitis pinus*). As is well illustrated by a full suite of specimens in transitional stages, the yellow of the rump is acquired early in the first moult, which is very nearly completed, in most cases, before that of the crown appears.

### 29. *Dendroica blackburniae*.

*First plumage*: male and female. Remiges, rectrices, etc., as in autumnal adult; rest of upper parts uniform dark brown, each feather on the back edged with light buff; the white scapular stripe poorly defined. Head markings precisely similar *in pattern* to the adults', but with the orange everywhere replaced by white, slightly tinged with buff on posterior half of superciliary line. Throat and entire under parts, in the male, clear white, tinged with pale yellow, each feather (excepting on throat) spotted terminally with black. From two specimens in my collection taken at Upton, Me., August 5 and 6, 1874. One of these, the male, has a few orange feathers on the throat, indicating the coming fall plumage.

"Young in autumn. Above similar to the adult female in fall plumage, but more olivaceous; all the markings less distinct. Superciliary stripe and entire lower parts, except the crissum, pale yellowish-buff, hardly brighter on the jugulum. Sides very faintly streaked with grayish. In my collection (No. 1003), Mt. Carmel, Ill., August 15, 1870." — R. R.

### 30. *Dendroica castanea*.

*First plumage*: female. Remiges, rectrices, primary coverts, and alulae as in adult. Pileum, nape, and rump dull brown; back dull olive-green;

upper tail-coverts slaty-black. Entire under parts creamy-white, with the slightest possible tinge of clay-color, varying to ashy on the breast. No trace of chestnut on the flanks. Sides of head buff, strongly tinged with greenish on the auriculars and maxillary line. Each feather of the body, both above and beneath, with a large terminal spot of black; the posterior half of abdomen, anal region, and crissum are, however, immaculate. In my collection, from Upton, Me., August 9, 1873.

A very complete suite of specimens, taken late in August and early in September, illustrates well the development of the plumage of the young of this species. The spotted feathers of the under parts, with the exception of a narrow line down the centre of the breast, are the first to disappear, and simultaneously with their removal, the chestnut flank-patches become apparent. Next the pileum and nape take on the autumnal green, and last of all the feathers of the back and central line beneath are changed. Adults of this species in fall dress are indistinguishable from the young, except by the more pronounced chestnut on the sides.

### **31. *Dendrocoa pennsylvanica.***

*First plumage:* male. Remiges, rectrices, etc., as in spring specimens. Wing-bands white, scarcely edged with yellow, and the general aspect of wing much duller than in fall specimens. Rest of upper parts, sides of head, jugulum, breast and sides, pale cinnamon, brightest on pileum, lighter on throat and sides of head. Feathers of back with central spots of dull black. Abdomen, anal region, and crissum creamy-white. From a specimen in my collection shot at Cambridge, Mass., July 18, 1874. It is not a little remarkable that the wing-markings of this bird are much more nearly like those of adults in spring than of the young in autumn.

### **32. *Dendrocoa maculosa.***

*First plumage:* female. Remiges and rectrices slightly paler than in adult; greater and middle wing-coverts just tipped with fulvous, forming two narrow wing-bands; rest of upper parts, sides of head, including orbital region and eyelids, and breast, dark ashy, somewhat lighter on rump. Abdomen, anal region, and crissum pale sulphur-yellow, blotched somewhat indistinctly anteriorly with ashy. Throat pale ashy, with a few yellow feathers intermixed. From a specimen in my collection shot at Upton Me., August 10, 1874. This bird was very young, indeed barely able to fly. Several specimens a little further advanced show an increased amount of yellow on the throat and abdomen, but are otherwise similar.

### **33. *Dendrocoa discolor.***

*First plumage:* male. Remiges, rectrices, etc., as in adult. Wing-bands very rich buff; rest of upper parts, with sides of head, light cinnamon, becoming almost ashy on the forehead and rump, and tinged slightly with yellowish-green on the back. Eyelids dirty white. Entire under parts pale lemon-yellow, somewhat duller, and with a shade of ashy on

the breast and sides. From a specimen in my collection shot at Cambridge, Mass., July 11, 1873. This bird has also two patches of bright yellow on the breast.

**34. *Perissoglossa tigrina.***

*First plumage*: female. Remiges, rectrices, and primary coverts as in adult. Pileum, nape, rump, and upper tail-coverts dark slaty-brown, the back with an indistinct patch of olive-green. Eyelids, throat, jugulum, and sides of breast dark slate; abdomen, anal region, and crissum solid white, tinged with dull yellow. From a specimen in my collection shot at Upton, Me., August 21, 1874. This bird exhibits a few irregular patches and isolated feathers of dull yellow on the breast and throat, fore-runners of the fall plumage.

**35. *Siurus auricapillus.***

"*First plumage*. Remiges, rectrices, etc., as in the adult. Rest of upper parts dull fulvous-brown; *the crown without stripes*, all the feathers very indistinctly darker centrally; lower parts paler, more buffy, fulvous, growing gradually white toward the crissum, the buffy portions (breast and sides), with very fine indistinct streaks of dusky. From a specimen in my collection obtained near Washington." — R. R.

**36. *Oporornis formosa.***

"*First plumage*. Remiges, rectrices, primary coverts, and alulae as in the adult. Pileum and back dull raw-umber-brown, tinged with rusty on the back and scapulars; throat, jugulum, breast, and sides pale grayish-fulvous, the abdomen and crissum paler, and slightly tinged with yellow. *No markings of any sort about the head*. My collection, Mt. Carmel, Ill., July 27, 1875." — R. R.

**37. *Icteria virens.***

"*First plumage*. Remiges, rectrices, etc., as in the adult. Head, superiorly and laterally, uniform grayish-olive, with a barely appreciable whitish supraloral line and orbital ring, and *without black markings*. Whole throat pale ash-gray (almost white on the chin), stained laterally and anteriorly with yellow; entire breast gamboge-yellow, obscured with olivaceous-gray across the jugulum (probably entirely gray at first, the yellow feathers being probably the beginning of the first moult). Abdomen white; flanks and crissum pale buff. In my collection from Mt. Carmel, Ill., July 19, 1875." — R. R.

**38. *Myiodiocetes canadensis.***

*First plumage*: female. Remiges, rectrices, etc., similar to the adults. Rest of the upper parts, including wing-coverts and sides of head, uniform deep dull cinnamon; the greater coverts tipped with fulvous. Throat, breast, and sides very light cinnamon, tinged with olive. Anal and abdominal regions pale sulphur-yellow. No conspicuous spots, stripes, or

markings anywhere. From a specimen in my collection shot at Upton, Me., August 4, 1874. This bird was so young as to be scarcely able to fly, and, with the rest of the brood, was attended by the female parent.

*Adult in autumn:* male. Similar to adult in spring, but with the yellow of the under parts much more intense, and the black spotting on the breast slightly clouded by the yellow tipping of the overlapping feathers. From a specimen in my collection shot at Upton, Me., August 29, 1874.

*Young in autumn:* male. Pileum and back greenish-olive; nape and rump bluish-ash, slightly tinged with olive. Centres of a few feathers on the forehead and cheeks, with a continuous line along the side of the neck to the breast, dusky-black. A broad band of very small spots (each one not more than one quarter of the size of those exhibited in the adult plumage) across the upper part of the breast black. Otherwise similar to the adult. In "History of Birds of North America," Vol. I. p. 320, Mr. Ridgway says, "In the young [these spots] are obsolete."

### 39. *Geothlypis philadelphia.*

*First plumage:* female. Remiges, rectrices, etc., as in adult. Rest of upper parts, with wing-coverts and sides of head, dull reddish-brown, becoming almost cinnamon on the back, and tinged strongly with ashy on the pileum. Entire under parts light reddish-brown, most pronounced on the abdominal and anal regions, becoming lighter on the throat, and darker, with a strong olive suffusion, on the breast and sides. No appreciable maxillary or supra-orbital stripes. From a specimen in my collection shot at Upton, Me., August 11, 1876. This bird was very young; in fact, barely able to fly. A slight doubt exists in my mind as to its identity, for I did not actually see the parent birds feed it, though both were in the immediate vicinity and exhibited much solicitude. This specimen is separable from the corresponding stage of *G. trichas* by the ashy cast of the pileum and the absence of brownish on the sides.

*Autumnal plumage:* young male. Entire upper parts olive-green, the feathers of the pileum and nape being just tipped with this color and showing plainly the ashy underneath when disarranged. Sides of head, with broad bands extending down each side of the throat and nearly meeting across the jugulum, ash, washed with greenish-olive. Sides, with a broad connected band across anal region and breast, dull olive-green. Rest of under parts, with central areas of throat and jugulum, very clear rich yellow, intensifying into a spot of orange on the breast. In two specimens (both males) a yellow tipping of the feathers on the jugulum nearly conceals much black underneath, which becomes conspicuous when the plumage is slightly disarranged.

*Autumnal plumage:* young female. Similar to the male, but with a more olive cast to the green of the dorsal aspect, less ashy on head, and the spot on the breast of richer, deeper color, and broader diffusion. The young of both sexes in autumnal plumage have the upper and lower eye-

lids *conspicuously fulvous-yellow*. In one specimen (male, taken August 21), the eyelids are *dirty-white*. From seven specimens (two females, five males) in my collection shot at Upton, Me., August, 1874. Irrespective of generic characters, the young of *G. philadelphus* in autumn are at once distinguishable from those of *Oporornis agilis* in corresponding stages, by the total absence of ashy on the central regions of throat, jugulum, and breast. So marked is the difference that obtains in this respect that I am easily able to separate the two species, when lying side by side, at a distance of fifteen or twenty feet.

#### 40. *Geothlypis macgillivrayi*.

*Young autumnal plumage*: male. Entire upper parts exactly as in *G. philadelphus* of corresponding age and sex. (See preceding species.) Sides of head very dark ashy, washed with olive. *Eyelids white*. Fore-part of the breast light ashy-gray, with a slight superficial wash of olive, shading into buffy-white on the chin. (Again compare with preceding species.) Rest of under parts clear rich yellow, obscured somewhat with greenish-olive on the sides. Upon raising, or even slightly disarranging, the feathers of the throat, broad subterminal bands of black appear on each feather. These bands or blotches, as in the young *G. philadelphus*, are concealed by the ashy tips of the overlapping feathers. From a specimen in my collection shot at Nicasio, Cal., by Mr. C. A. Allen, August 1, 1876.

#### 41. *Geothlypis trichas*.

*First plumage*: male. Remiges, rectrices, etc., as in adult. Wing-coverts continuously light brown. Rest of upper parts, including sides of head, brown, lightest on rump, and slightly tinged with olive on the back. Throat yellowish-olive, deepening to dark clear olive on jugulum, breast, sides, and anal region. Abdomen dull yellow, with its lateral margins bounded by bands of fulvous-brown. From specimen in my collection shot at Upton, Me., August 26, 1874. Two other specimens, taken respectively July 28 and August 10, present no appreciable difference from the birds first described.

#### 42. *Pyranga rubra*.

*Occasional plumage*: male. Wings and tail black; entire plumage of body rich orange, with a greenish tinge on flanks and anal region. From a specimen in my cabinet, collected by Mr. C. J. Maynard, at Waltham, Mass., May 27, 1869. This remarkable specimen I for a long time considered unique, but I have recently examined another in the possession of Mr. Arthur Smith, of Brookline, which is its precise counterpart, and Mr. Ridgway tells me he has seen still others. This plumage is not to be confounded with the ordinary immature one of this bird, where the scarlet is simply of a lighter shade or mixed with patches of yellowish-green. It is a pronounced uniform coloring, and apparently a completed plumage.

Unquestionably it is abnormal, but hardly to be placed in a category with albinism, and probably it is not very unfrequent. Adult males of *P. rubra* change to the greenish autumnal plumage of the female and young, a fact not generally known. They may in that stage be distinguished by the blacker coloring of the wings and tail. I have never seen the young males in autumn with red feathers appearing in the plumage, as spoken of by writers ; probably such specimens may be referred to adult birds taken in August or September, with the moult only partially effected ; many of such examples I have now before me, all unquestionably adults. The scarlet bands on the wing-coverts of some specimens are to be regarded as individual adornments, independent of age. Many comparatively immature specimens possess them, while in some of the finest birds they are wanting.

**43. *Hirundo horreorum.***

*First plumage* : female. Fork of tail not deep ; outer feathers projecting one-half inch beyond the inner ones. Remiges and rectrices brown ; upper parts, in general, glossed with dull steel-blue ; feathers of rump and upper tail-coverts edged with rusty ; frontal band narrowed to a mere line of pale fawn-color. Beneath similar to adult, but everywhere paler. From a specimen in my collection taken at Rye Beach, N. H., August 21, 1872.

**44. *Tachycineta bicolor.***

*First plumage* : male. Upper parts uniform dark slate, with a fine silky gloss ; feathers of interscapular region faintly edged with pale fawn. Secondaries edged and tipped with pale cinnamon-gray. Under parts soiled white, with a faintly indicated pectoral band of pale ashy-brown. From a specimen in my collection, shot at Cambridge, June 22, 1872.

A good series of summer specimens shows well the transitional stages. The first plumage is worn much longer than in most birds, and the autumnal dress very slowly acquired, the metallic tinted feathers appearing one or two at a time. The remiges are also moulted by the young, as well as by the adult, and both in the autumnal plumage have the last pair of secondaries broadly tipped with pure white. This remarkable feature, so far as the specimens at hand go to show, is entirely characteristic of this plumage.

**45. *Petrochelidon lunifrons.***

*First plumage* : male. Top of head, back, and scapulars dark brown ; collar around nape, dull ashy, tinged anteriorly with rusty. Rump as in adult, but paler ; forehead sprinkled with white, and with a few chestnut feathers. Secondaries broadly tipped with ferruginous. Throat white, a few feathers spotted centrally with dusky. Breast and sides ashy, with a rusty suffusion, most pronounced on the latter parts. A very small area of pale chestnut on the cheeks. From a specimen in my collection taken at Upton, Me., July 27, 1874.

46. *Cotyle riparia*.

*First plumage*: male. Upper parts brown, each feather edged with ferruginous, this edging broadest on the rump and secondaries, narrowest on the crown and nape. Beneath like the adult, but with the pectoral band strongly washed with ferruginous, and the throat thickly spotted with the same color. In my collection, from Rye Beach, N. H., August 24, 1872. Autumnal specimens have the secondaries tipped with white, but not so broadly as in *Tachycineta bicolor*.

47. *Ampelis cedrorum*.

*First plumage*: female. Above generally duller cinnamon than in adult, with obscure streakings of dusky-buff; rump grayish-brown with a tinge of olive. Tail narrowly tipped with gamboge-yellow. Two secondaries on each wing slightly tipped with the red waxen appendages. Entire under parts brownish-buff, palest about anal region, deepest on throat and chin; breast and sides streaked thickly with cinnamon-brown. A dull black line, starting from the nostril, passes through the lore to the eye, where it terminates, embracing, however, the anterior half of both eyelids. From a specimen in my collection, taken at Upton, Me., August 14, 1874. I have seen specimens of this species in the first plumage with not only the secondaries wax-tipped, but several of the tail-feathers also. Nor is this horny appendage peculiar to the male, as has been stated, for several undoubted females before me have it fully developed. Much variation likewise obtains among different individuals in respect to the number and position of these appendages. One specimen (a male, Cambridge, March 21, 1870) has *every feather* of the tail conspicuously wax-tipped, in addition to nine of the secondaries on each wing, while another has the primaries (excepting the first three) tipped broadly with white, and in the centre of each white spot a smaller one of yellow.

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NOTES ON SOME OF THE BIRDS OF CALAVERAS COUNTY,  
CALIFORNIA, AND ADJOINING LOCALITIES.

BY ROBERT RIDGWAY.

SEVERAL small lots of birds received at the National Museum from its correspondent, Mr. L. Belding, of Marysville, California, collected chiefly in Calaveras County, in that State, are of great in-

terest, as showing a somewhat remarkable fauna for a locality situated as this is on the Pacific slope of the Sierra Nevada, there being a curious intermingling of Eastern, Northern, and Southern species with those usually considered as truly "Californian." The collections thus far received embrace only forty-seven species (including races), a list of which, with remarks, is given below:—

1. *Mimus polyglottus*. No. 73,609, December 26, 1877.
2. *Myiadestes townsendi*. No. 73,610, ♂ ad., May 4, 1877.
3. *Phaenopepla nitens*. No. 73,534, Murphy's, May, 1877.
4. *Cinclus mexicanus*. No. 73,533. No date.
5. *Regulus satrapa*. No. 73,535, ♂ ad. No date.
6. *Catherpes mexicanus*, ♂. *conspersus*. No. 73,045, Murphy's, February 7, 1877.
7. *Thryomanes bewicki*, ♂. *spilurus*. No. 73,612, January 5, 1877.
8. *Sitta carolinensis*, ♂. *aculeata*. No. 73,608, January 5, 1877.
9. *Sitta canadensis*. No. 73,534. Big Trees, alt. 4,500 feet, May 19.
10. *Helminthophaga ruficapilla*. Several specimens in very bright spring plumage, agreeing entirely with Eastern examples both in colors and proportions. The supposed Western race, "var. *gutturalis*" (Hist. N. Am. Birds, I, p. 191), based upon a special plumage, is therefore untenable. This common "Eastern" species, of which autumnal specimens only have been recorded from the Western Province, Mr. Belding finds quite common on the Sierra Nevada, and has ascertained that it breeds in Calaveras County.
11. *Helminthophaga celata*, ♂. *lutescens*. Nos. 73,613, juv., Big Trees, May, 1877, and 73,614, ad., January 8, 1878 (!) A permanent resident, both breeding and wintering.
12. *Dendroica occidentalis*. Nos. 73,039, ♂, and 73,040, ♀, Big Trees, May 20, 1877. In the brightest spring plumage, the male with the whole head, except throat, pure gamboge-yellow, the pileum immaculate!
- [13. *Dendroica coronata*. Mr. Belding writes that he thinks he has got this species "during a recent visit to Murphy's." This is very likely, since it is now known to be of not uncommon occurrence in certain parts of California.\* I have a specimen obtained April 9, 1877, at Nicasio, Marin County, by Mr. C. A. Allen, who writes me that he has frequently taken it. I am also informed by M. J. A. Allen that the Museum of Comparative Zoölogy possesses specimens collected at Haywood, Alameda County, by Dr. J. G. Cooper.]
- [14. *Geothlypis trichas*. Two specimens seen at Marysville, January 2, 1878 (!).]
15. *Laniivireo solitarius*. Nos. 73,041, and 73,042, males, Big

\* Has been subsequently received from Mr. Belding.

Trees, May 10, 1877. Apparently the true *solitarius*. Of common occurrence, and breeding.

16. *Laniivireo cassini*. No. 73,537, ad. No date.
17. *Vireosylvia gilva*,  $\beta$ . *swainsoni*. No. 73,043. No date.
18. *Collurio borealis*. Nos. 73,615 and 73,616, January 2 and 8, 1877.
19. *Collurio ludovicianus*. Nos. 73,617 and 73,618. No date. These examples, like most Californian ones, are by no means referable to *excubitoroides*, but are fully as dark as the darkest individuals of true *ludovicianus* from the Southern Atlantic and Gulf States.
20. *Hesperiphona vespertina*. No. 73,538, ♂ ad. No date.
21. *Pinicola enucleator*,  $\beta$ . *canadensis*. No. 73,539, ♂ juv. Soda Springs, Placer County, September 28, 1877.
22. *Carpodacus cassini*. No. 73,048, ♂ ad. Big Trees, May 20, 1877.
23. *Chrysomitris tristis*. No. 73,630. No date.
24. *Chrysomitris lawrencii*. No. 73,629, ♂ ad., January 9, 1878.
25. *Chrysomitris pinus*. No. 73,540. Murphy's. No date.
26. *Chondestes grammacus*. No. 73,541. Murphy's, February, 1877 (!).
27. *Poocetes gramineus*,  $\beta$ . *confinis*. No. 73,542. No date.
28. *Passerculus sandwichensis*,  $\gamma$ . *alaudinus*. Nos. 73,071, April, 1877 ; 73,625-7. No date. ("Summit of Sierra Nevada, lat. 39°.")
29. *Zonotrichia leucophrys*. No. 73,543. No date.
30. *Spizella socialis*,  $\beta$ . *arizonae*. Nos. 73,544, Soda Springs, Placer County, September, 1877, 73,628, Calaveras County. No date ; also seen January 6, 1878.
31. *Melospiza fasciata*,  $\beta$ . *guttata*. No. 73,050, ♂ ad. Murphy's, March 20, 1879. No. 73,619. No date.
32. *Melospiza fasciata*,  $\gamma$ . *fallax*. No. 73,621. No date.
33. *Melospiza fasciata*, ♂. *heermannii*. No. 73,621, July, 1877. Probably the resident form.
34. *Melospiza lincolni*. Nos. 73,540, 73,622-4. No dates.
35. *Passerella iliaca*, ♂. *megarhyncha*. No. 73,049, ♂ ad. Big Trees, May, 1877.
36. *Myiarchus cinerascens*. No. 73,546. Murphy's, April 17, 1877.
37. *Sayornis nigricans*. A very curious albinescent example of this species (No. 73,611) is colored as follows : Prevailing color very pale pearl-gray, fading to white on the abdomen and lining of the wing. Wing-coverts tipped with creamy buff, forming two distinct narrow bands. The specimen is a full-grown young one, as shown by the buff wing-bands and the texture of the feathers. Slight indications of the normal plumage are seen in a small black spot just above the posterior angle of the right eye, and several black feathers among the lesser wing-coverts, while, according to the collector, there was a spot of the same color on the breast, but this

was carried away by the shot. The specimen was obtained at Stocton, July, 1877.

38. *Contopus richardsoni*. No. 73,547. No date.
39. *Empidonax pusillus*. No. 73,044. Stocton, July, 1877.
40. *Empidonax obscurus*. No. 73,047. Murphy's, April 28, 1878.
41. *Empidonax hammondi*. Nos. 73,045-6. Murphy's, April 28, 1878.
42. *Picus nuttalli*. No. 73,033. Murphy's, Calaveras County (alt. 2,000 feet), April, 1877.

43. *Picus pubescens*. An adult male (No. 73,606), collected December 27, 1877, is absolutely typical *P. pubescens*. There is a large cluster of white spots covering the lesser wing-covert region, while the greater coverts have a row of white spots at the base, more or less concealed by the middle coverts; the secondaries and tertials are likewise completely crossed by bands of white spots. I have seen very many Western examples of this bird *approaching* the true *pubescens*, to a greater or less degree, but this is the first I have seen having the row of spots at the base of the greater coverts, and the conspicuous cluster of white spots, forming an irregular broken patch on the middle coverts, — the essential characters of *pubescens*, as restricted.

44. *Picus pubescens*, *β. gairdneri*. No. 73,607, ♂ ad. December, 27, 1878.

45. *Sphyrapicus thyroideus*. Nos. 73,548, ♂ ad. and 73,559, ♀ ad. No dates.

46. *Colaptes auratus*, *β. mexicanus*. Nos. 73,603, and 73,605. December, 1877.

47. *Colaptes auratus*, *γ. hybridus*. Nos. 73,602-4, December, 1877. This series is one of great interest. One specimen corresponds very nearly to *C. "ayresii"* of Audubon, having red "mustaches," gray throat, and yellow shafts; the latter, however, have a decided orange cast, while there is merely a trace of the scarlet occipital crescent. The most interesting specimen of all, however, is No. —, of which, unfortunately, the tail only was sent. In this the rectrices are deep red, as in true *mexicanus*, with the exception of the middle pair, which are pure gamboge-yellow, without a trace of orange; the contrast being thus very striking. Another specimen, of which the tail only was sent, is similar except that the middle tail-feathers are pale-pinkish instead of yellow.

Records of the occurrence on the Pacific Slope of species formerly considered exclusively Eastern, have now become so numerous as to render it extremely probable that, as the various districts of our Western domain are more fully explored, the number of species common to both sides of the continent will be considerably increased and the list of those peculiar to the Eastern Province correspondingly diminished. The transfer from the latter category to the former may be considered as established with regard to several of the species enumerated above, as *Dendræca coronata*,

*Helminthophaga ruficapilla*, *Lanivireo solitarius*, *Collurio ludovicianus*, and *Zonotrichia leucophrys*. It should be borne in mind, however, that every species is very much more local in the West, where modifications in topographical details are intricate, involving very great variations of climate and vegetation within a small compass of territory, than in the East, where the whole country presents a great uniformity of surface, thus allowing a much more general dispersion of vegetable and animal life.

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NOTES ON THE BREEDING HABITS OF HUTTON'S VIREO  
(*VIREO HUTTONI*) AND THE GRAY TITMOUSE (*LOPHOPHANES INORNATUS*) WITH A DESCRIPTION OF THEIR  
NESTS AND EGGS.

BY WILLIAM A. COOPER.

HUTTON's Vireo (*Vireo huttoni*) breeds in the vicinity of Santa Cruz, though not in abundance. Retiring in habits, their nests and eggs are rarely found. April 7, 1874, I found a nest placed ten feet from the ground, suspended from a dead branch of a *Negundo*, containing three eggs incubated about five days. March 30, 1875, I found another nest placed eight feet from the ground, suspended from the small twigs of a *Frangula*. The bird showed little signs of fear, and would not leave the nest till I almost touched her; then she flew to a tree near by, and uttered a single note, *twea*, repeated every three or four seconds. When I took the nest she hopped around me from twig to twig, venting her sorrow in a plaintive *twik, tweas*; *twik, tweas*.

The nest — a neat, compact structure, composed of fine vegetable fibres, bits of paper, and grasses covered on the outside with green and gray mosses, lined with fine grasses — measures 3.25 in ches in diameter outside, 1.75 inside; depth 2.25 outside, 1.50 inside.

The eggs, four in number, are white (a delicate blush-color before blown), marked with minute dots of reddish-brown, more numerous toward the larger end. They measure respectively, .70 x .52, .70 x .51, .69 x .51, .68 x .52. Two other nests were found, each containing four eggs. They were placed, one in a *Negundo*, thirty feet high, the other at the extremity of an oak limb, twenty-five feet from the ground. Of the latter the female was so unsuspicious that when caught and removed from the nest she immediately returned to it.

April 4, 1877, while collecting on the foot-hills four miles from Watsonville, my undivided attention was drawn toward a Gray Titmouse, whose scolding outcry, if not intended for me, was nevertheless so taken. Observing that the bird had a large insect in its bill, I concluded it was about to feed its young, or possibly its mate. Taking my station behind the trunk of a tree, I waited in vain for nearly an hour for it to enter its nest. It flew from one branch to another, favoring one part of the tree, uttering its cry continually. My time being limited, I concluded to examine the tree, and was agreeably rewarded by finding the nest immediately. This was placed in a hollow in the end of a limb of an oak, five feet from the ground, the mouth of the hole very small. The female was on the nest, and would not leave, fighting even unto death.

The nest is composed outwardly of grasses, the inner portion of fur of rabbits and other animals, besides a few hairs and feathers. It measures 7.50 inches in diameter outside, 2.50 inside; depth, 2.50 outside, 1 inside.

The eggs, four in number, had been incubated about five days. The ground-color is white, marked over the whole egg with minute irregular spots of a pale reddish color. The most spotted egg has a perceptible pinkish appearance. Measurements, .68 x .53, .68 x .52, .64 x .52, .64 x .52.

I anticipate finding, in additional sets of the eggs of this species, deeper-colored and larger markings, with considerable variation of size and shape, besides a larger number of eggs.

Santa Cruz, California.

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A DESCRIPTION OF UNUSUALLY DEVELOPED INDIVIDUALS OF THREE SPECIES, AND REMARKS ON UNCOMMON PLUMAGES IN SEVERAL OTHERS, TAKEN NEAR WEST POINT, N. Y.

BY EDGAR A. MEARN'S.

**1. *Geothlypis philadelphica*, (Wilson) Baird. MOURNING WARBLER.** — A specimen of this species (No. 1000 ♂, May 26, 1876, E. A. M.) is remarkable for its high development. All of its markings are unusually bright; the chin, throat, and forepart of breast almost solid black; the feathers of the chin and upper part of the throat only exhibiting the

faintest margins of ash. Professor Baird \* has remarked: "It is quite possible that in the full-plumaged male the entire throat may be black, as there is a tendency to this in some specimens."

2. *Setophaga ruticilla*, (Linné) Swainson. RESTART.—A male of this species, which I took here, is also remarkable for its high state of development (No. 1003 ♂, May 17, 1876, E. A. M.). It is a fully adult and highly plumaged bird. Its chief peculiarity consists in the extreme development of the orange-red on the ventral surface, and the restriction of the black to the forepart of the breast, where its margin is quite sharply defined, being abruptly intercepted by the orange-red, which occupies the *whole under parts and sides of the body, with the exception of the under tail-coverts*, which are white at base, the longest feathers being blackish. The orange-red at the base of the rectrices and remiges is also much less restricted than in the normally plumaged individual.

3. *Ampelis cedrorum*, (Linné) Sclater. CEDAR-BIRD.—I have been so struck by the great variation in different specimens of this species, in regard to the red wax-like appendages, that I have taken particular pains to procure a large series of specimens illustrating this difference. In this series I can scarcely detect any sexual difference in that respect, except that the particularly well-developed specimens are all males. In the normal plumage the waxen appendages are confined to the tips of the secondary remiges, but in my cabinet are several specimens which have them affixed to the *primaries*, and in several instances even to the *rectrices*; but they are usually small and few in number. One specimen has several of these attachments to the primaries, which are nearly as well developed as those on the secondaries. But the most remarkable specimen is a handsome male (No. 545, ♂ ad., April 11, 1875, Highland Falls, N. Y., E. A. M.), having these ornaments attached, not only to each of the secondaries and *three of the primaries*, but each of the rectrices is embellished by a well-developed red appendage. Several other specimens have large red tips to each of the rectrices; and one (No. 1558 ♂, Feb. 23, 1878, E. A. M.) *has five* of its primary remiges (5th to 9th) tipped with yellow. Professor Baird † says: "A specimen from Guatemala (No. 50,455 ♂) is almost identical with examples from the United States, but differs in having a small spot of yellow at the tip of each primary; also there are red appendages on the tip of a few tail-feathers, as well as the *longest feather of the lower tail-coverts*." ‡

While speaking of this species, it may be well to add, that in specimens taken in worn plumage, late in summer, the colors are very much bleached, all of the colors being very much paler; the white band across the fore-

\* Birds of N. Am., by Baird, Cassin, and Lawrence (Vol. IX of Pacific Railroad Reports), p. 244, 1858.

† Baird, Brewer, and Ridgway, Birds N. Am., Vol. I, p. 401, 1874.

‡ Italics my own.

head is very much broadened, and the black of the chin much lightened. The top of the head and neck has an ochraceous suffusion, and the cinnamon-color of the back extends into, and partially subdues the ash of the rump.

**4. *Helminthophaga peregrina*, (Wilson) Cabanis.** **TENNESSEE WARBLER.** — I have a curious albinistic variety of this species (No. 92 ♂, May, 1874, E. A. M.). It was shot among the blossoms of a plum-tree, where it was seen skipping about in the liveliest manner. Its head is pure white, except a very slight sulphur suffusion on the crown; the residue of the plumage is much lightened, and with occasional patches of sulphur-white feathers on the back.

**5. *Dendrocoa pennsylvanica*, (Linné) Baird.** **CHESTNUT-SIDED WARBLER.** — A spring female of this species (No. 1437 ♂, May 19, 1877, E. A. M.) seems to have passed by its spring moult, since it is still in the autumnal plumage, except for the appearance of a few black streaks on the back. The plumage is worn and dingy, and exhibits no trace of the chestnut side-stripe.

**6. *Corvus americanus*, Audubon.** **COMMON CROW.** — There is a peculiarity of the plumage of the Crow, which I have noticed in a number of specimens shot during the breeding season, in May. All specimens shot at this season do not exhibit this peculiarity, and some show it in a more marked degree than others. These specimens are characterized by the entire absence of the violet gloss on the wings and tail, those parts being of a lustreless, purplish-brown color. Some specimens have the concealed bases of the feathers of a fine, violet-glossed black, and the residue of a rich bronze hue.

My attention was first attracted to this state of plumage by two birds which I shot in the very act of devouring the eggs of the Night Herons, in the herony on Constitution Island, in the Hudson River, on the 23d of May, 1877. These birds were extreme examples. This condition of plumage may not be limited to the breeding season, for I have a specimen shot in winter, which has one of the rectrices of a rich, purplish bronze-color; but I found this plumage prevailing in the greater number of specimens shot during the last week in May.

**7. *Picus pubescens*, Linné.** **DOWNTY WOODPECKER.** — A female of this species (No. 449 ♀, February 26, 1875, E. A. M.) presents a very unusual appearance. It still retains a number of red feathers on both sides of the *nape*. The red feathers on the *crown* are said to be characteristic of the *young* female. It is interesting to know that the red feathers are retained so late in the season. The red patches on the *nape* were so conspicuous in the living bird as to cause it to be shot.

**8. *Myiodiocetes mitratus*, (Gmelin) Audubon.** **HOODED WARBLER.** — Mr. C. Hart Merriam, in his late "Review of the Birds of Connecticut" (pp. 25 and 29), rectifies an error in the recent descriptions of the females of this species. I wish to add my testimony to his conclusions, "that the

female bird, like the male, is several years — at least three — in attaining its full plumage ; and that the two sexes, when fully adult, can only be distinguished by the fact that, in the female, the throat, though strongly tinged with black, is never *pure black* as in the male." Long ago I discovered these facts, as the bird is an abundantly breeding summer resident here, where I have taken several of their nests in a single walk. With a large series of specimens before me, I can fully indorse Mr. Merriam's views. The females of the second summer are entirely without any black upon the head, and I have frequently found them sitting upon their eggs in this condition. Males of the same age show very evident traces of black. Only in extreme examples does the black on the hood and throat of the female approach the purity of those parts in the male.

**9. *Siurus motacilla*, (Vieillot) Coues. LARGE-BILLED WATER-THRUSH.** — I wish to call attention to the fact that the chin and throat of this species are *not* "entirely immaculate,"\* as described in the books. On the contrary, I have never seen a specimen, in the large number of birds belonging to this species which I have handled, that lacked minute markings of brown on the chin and throat, though these are much less strong than in *S. nevius*. There is also a whitish stripe extending from the base of the maxilla to the back of the eye, involving the under lid, and separated, anteriorly, from the superciliary line, extending from the bill, above the eye, to the nape, by a narrow dark band. This stripe is often quite conspicuous.

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#### NOTES ON *JUNCO CANICEPS* AND THE CLOSELY ALLIED FORMS.

BY T. M. BREWER.

AMONG a collection of nests and eggs received the past season from Colorado, coming from the vicinity of Summit County, the highest inhabited portion of that State, are three nests of the *Junco caniceps*. They are assigned to the common resident *Junco* of that region by Mr. Edwin Carter, who identified them; the parents, in each instance, having been shot on the nest, and ascertained to be the bird there known as the Cinereous Snow-bird. Unfortunately the individual parents were not preserved with their nests, so that it is now impossible to verify these identifications. It therefore remains an interesting question whether the eggs of the *Junco caniceps* exhibit such surprising variations as are shown in these sets, or

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\* Baird, Brewer, and Ridgway, *Hist. of N. Am. Birds*, Vol. I, p. 287, 1874.

whether there is more than one species that breed in the high mountain-regions of Colorado. I use the word "species" for the mere convenience of expression, but not as assuming that the several forms of *cinereus*, *dorsalis*, *caniceps*, etc. are *bona fide* species.

There are in the Smithsonian collection well-identified sets of the eggs of *Junco cinereus*, *dorsalis*, and *caniceps*, one set of each. Of course this is not enough to establish the typical peculiarities of their eggs. The set of *Junco cinereus* were taken by Mr. Henshaw in the mountains of Southern Arizona, at an altitude of 9,500 feet. It was taken August 1st, the eggs were fresh, and it was probably the second laying of the season. They appeared to me to be of an unmixed greenish or bluish white. When taken they were said, while almost immaculate, to show the presence of a few minute punctate reddish-brown spots, irregularly disposed over the surface, and Mr. Henshaw writes me, under date of February 18, 1878, "two of the four eggs still show the minute reddish-brown punctulations — they can scarcely be said to be spots — alluded to in my report, though these are fainter than when first collected. There are perhaps twenty of these isolated dots scattered over the surface; without a critical notice the eggs would be passed by as immaculate. The ground-color of these eggs is now a dead bluish-white, and shows no trace of green." \*

The set of *Junco dorsalis* was also taken by Mr. Henshaw in the mountains near Camp Apache, Arizona. These four eggs had the same pale greenish-white ground-color, and all exhibit, on careful examination, brownish-red spots, very minute, and scattered over the whole surface,—in one egg much more abundantly,—forming a confluent curve around the larger end. The eggs of the two sets are about equal in size, ranging from .84 to .77 of an inch in length, and averaging about .63 in breadth.

"The set of *Junco caniceps*," Mr. Henshaw writes me, "were taken in Colorado by Mr. J. H. Batty. There were originally five in the nest. The measurement of the remaining four are .82 x .61, .83 x .61, .78 x .60 .86 x .62; ground-color bluish-white (probably originally with a tinge of greenish), profusely overlaid with small irregular spots, and blotches of reddish-brown and lilac. The eggs of this set vary considerably in the amount of markings and the manner of distribution. In two these consist of minute punctulations that

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\* In his report Mr. Henshaw describes it as greenish-white.

over-cloud the ground-color. In the rest the markings are bolder and very conspicuous at the larger end, where they are confluent in a ring."

Of the three sets of the eggs of *Junco caniceps*, from Mr. Edwin Carter, in one the eggs are almost entirely white, with a very slight tinge of greenish, and measure .83 of an inch in length, and from .59 to .61 in breadth. More or less diffused over the whole surface of the eggs are very minute and quite obscure reddish dots. Around the larger end in each case are fainter cloudings of purple, clearly perceptible, if looked for, but liable to escape notice if not carefully observed. This set, in its general characteristics, is very similar to the eggs of *Junco cinereus* above mentioned, and intermediate between them and those of the *Junco dorsalis*. In regard to its identity there seems to be no doubt. Mr. Carter writes me: "Of the set in your possession I am positive. I took it, June 23, 1873, having walked four miles to secure it. On the same day, and in the same locality, I found another nest, which was secured. Both birds were startled from their nests and shot, without leaving my sight."

The second set mentioned is now in my possession, and is more plainly and strongly marked than either of the sets referred to in the Smithsonian, more so even than that of *Junco caniceps*. The eggs, three in number, measure .82 x .60, .80 x .61, .81 x .60. The markings are a combination of rusty and purplish brown, often confluent and concentrated in greater blotches about the larger ends, while also more or less diffused over the whole surface of the eggs.

The third set, now in the Cambridge Museum, was taken by Mr. Carter's partner, Mr. Wilkinson, in the high mountains bordering the South Park. He flushed the parent from its nest and shot it, but unfortunately did not preserve it. For the following description of this set, I am indebted to Mr. J. A. Allen: "'Cinereous Snowbird, South Park, Colorado, July 12, 1876. Nest on ground; four eggs.' The above is a full transcript of the collector's label. No nest was sent. Coll. M. C. Z., No. 1685. Ground-color white, minutely sprinkled all over with reddish-brown surface-markings, and deeper ones of a pale lilac. The markings are much more abundant near the larger end, where they form a rather broad band; in some of the specimens the smaller end is merely sprinkled rather thickly with minute dots, extending over the whole end. The reddish-brown markings are much the coarser and more prominent, and on one specimen form quite large blotches. The eggs measure, respectively, .88 x .63, .88 x .62, .90 x .65, .89 x .62."

Their large size and the peculiarity of their markings, so different from those of any *Junco* that I have ever seen, suggested a suspicion that they might be the eggs of the *Junco aikenii*, but this Mr. Carter does not regard as probable. The nests of the first two present nothing peculiar in their construction. They are saucer-shaped, and are merely loose aggregations of grasses and stems of plants, lined with fine material of a like nature.

Mr. Carter is confident that he has never met with more than three forms of *Junco* in Colorado, namely, *caniceps*, *oregonus*, and *aikenii*; the latter two he has known since 1859, when he first met with them in large numbers near Central City, but his observations have been mainly confined to the higher altitudes. He met with *aikenii* in the greatest abundance on the eastern slope of the main range, at an elevation of eight thousand feet, twelve years before Mr. Aiken first brought it to the attention of naturalists. The latter's first specimens were procured in the lower and eastern limit of their habitat, which will account for his speaking of their scarcity and their straggling habits. The same winter (1871-72) Mr. Carter, in his camp, a few miles west, and at an altitude greater by some three thousand feet, met with these individuals every day, in flocks of from a few individuals to those of a hundred or more.

Mr. Carter is also quite sure that all the adults of this species, of both sexes, are always found to possess the white wing-bands well defined, and that it is only the birds of the first year, in immature plumage, that furnish what has been mistaken for an intermediate form between this species and the typical *Junco hyemalis*. Mr. Carter has never, to his knowledge, met with *oregonus* or *aikenii* in Colorado during the breeding season, but thinks that they all move farther north to nest.

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#### EFFECTS OF THE WARM WINTER ON THE MIGRATION OF BIRDS.

BY JOHN MURDOCH.

IT is well known that in ordinary winters all our summer residents and autumnal visitors have taken their departure from the neighborhood of Boston by the month of December. From the

early part of September, when the Warblers and other gay summer visitors begin to leave us, the fall is a season of successive departures, until, when the ground is fairly covered with snow, nothing remains but those birds, like the Chickadee, who pass the whole year with us, and our regular winter-guests from more northern districts, who find our winters, severe as they are, more genial than the rigors of Canada and Labrador.

This winter, however, matters have been somewhat different. The delightful autumn weather persistently continued, until one began to doubt whether we were to have any winter at all. Up to the 30th of December there had not fallen an inch of snow, and the ponds and streams were hardly frozen, while in many places the grass was still green.

Naturally, some of our migratory birds took advantage of the clemency of the season to avoid starting on their long and tiresome journey, before they were actually forced to.

On December 29, while walking at a short distance from my house, in Roxbury, Mass., I was somewhat surprised to see a pair of Bluebirds (*Sialia sialis*) fly up from a fence, near at hand, and alight upon a tree not far off. There was, of course, no doubt as to their identity, as a Bluebird is not easily mistaken. This bird usually leaves us by the early part of November. On the same day, in Sharon, Mass., a friend of Mr. Ruthven Deane actually shot a Bluebird out of a small flock.

The Catbird (*Mimus carolinensis*) generally departs by the middle of October, but Mr. C. W. Townsend, a member of this Club, informs me that one of these birds was taken by J. F. Carleton, in a field at Woods Hole, Mass., on the 28th of last December.

Mr. Townsend also saw as late as the first of January small flocks of the Yellow-rumped Warbler (*Dendroica coronata*), in the woods, near the shore, at Magnolia, Mass. This bird has been known to linger as late as the early part of December on Cape Cod, but never so far north of the Cape.

These instances all point to the probability that many of our autumn visitors took advantage of the season to prolong their stay beyond their usual custom.

## Recent Literature.

SHARPE'S "CATALOGUE OF THE BIRDS IN THE BRITISH MUSEUM."—Three volumes of this important work have now appeared. The first, devoted to the Diurnal Birds of Prey, was published in 1874; the second, embracing the Owls, in 1875; and the third, treating of several families of Passerine birds, in 1877.\* These volumes are intended to embrace descriptions of all the known species of the groups treated, and hence form invaluable hand-books. The descriptions are generally very detailed, embracing an account of the various stages of plumage through which the different species pass, and copious bibliographical references are given. While the labor bestowed upon these volumes is evidently very great, they are not in all respects what we should like to see them. No generic diagnoses, for instance, are given beyond what may be gleaned from the "Keys to the Genera" of each subfamily, and generally no comparative characters of the species, except those afforded by the "Keys" accompanying the genera. The keys themselves, both of the genera and species, are a great help in determining the species, but do not always fully serve their intended purpose. The species are generally described without direct comparison with their near allies, and although the descriptions are sometimes greatly extended, they too often fail to duly emphasize important or distinctive points. By a judicious grouping of common characters and contrasted diagnoses, the essential points of difference between closely allied forms would have been made more prominent, and the amount of text rather lessened than increased. Our gratitude for a general work on the birds of the world, containing so many points of excellence as the present, ought perhaps to soften our criticism, especially when it is remembered how few have either the courage, the endurance, or access to the necessary material, for the great task Mr. Sharpe has so energetically undertaken and is so ably carrying out.

The Raptorial Birds are treated as an order (*Accipitres*), with three sub-orders, *Falcons*, *Pandiones*, and *Striges*. For the Diurnal Birds of Prey, the old family divisions of *Vulturidae* and *Falconidae* are retained, except that the Fish-Hawks (genera *Pandion* and *Polioaëtus*) are removed from the latter to form the wholly untenable "suborder" *Pandiones*. The

\* Catalogue of the Birds in the British Museum. Vol. I. Catalogue of the Accipitres, or Diurnal Birds of Prey. By R. Bowdler Sharpe. 8vo. pp. xiii. 480, pls. xiv. London, 1874. Vol. II. Catalogue of the Striges, or Nocturnal Birds of Prey. By the same. 8vo., pp. xi, 326, pls. xiv. 1875. Vol. III. Catalogue of the Coliromorphæ, containing the families Corvidæ, Paradisidae, Oriolidae, Dicruridae, and Prionopidae. By the same. 8vo, pp. xiii, 344, pls. xiv. 1877.

Owls (*Striges*) are all referred to the family *Bubonidae*, except the genera *Strix* and *Phodilus*, which alone constitute the family *Strigidae*.

Mr. Sharpe gives the number of species of the Diurnal Birds of Prey as three hundred and seventy-seven, of which twenty-three are regarded as doubtful. Of the remainder three hundred and twenty-five are represented in the collection of the British Museum, the total number of specimens falling little short of twenty-five hundred.

Respecting the North American species, it may be noted that our common Rough-legged Hawk is considered as specifically distinct from the European, the two bearing the names respectively of *Archibuteo sanctijo-hannis* and *A. lagopus*. The Golden Eagles (*Aquila chrysaëtus*), the Peregrine Falcons (*Falco communis*), and the Fish-Hawks (*Pandion haliaëtus*), on the other hand, are regarded as identical. The generic term *Cerchnis* (Boie, 1826) is adopted for the Sparrow-Hawks, of which several of Mr. Ridgway's varieties are raised to the rank of species.

Of the Owls, about one hundred and ninety species are recognized, of which ten are regarded as doubtful. They are represented in the British Museum by about eleven hundred specimens. The Snowy Owl (*Nyctea scandiaca*) of North America, contrary to the opinion of some American writers, is held to be identical with that of Europe, the two being considered as not separable even as races, Mr. Sharpe being unable to appreciate any differences of color, but admitting a slight difference in the amount of feathering of the toes. The Long-eared Owls (for which the generic name *Asio*, Brisson, 1766, is adopted) of America and Europe he admits as subspecies of a circumpolar "*Asio otus*." The nearly cosmopolite Short-eared Owl (called "*Asio accipitrinus*") he divides into several races or subspecies, of which the American (its habitat including both North and South America) forms "*β. Asio cassini*." Richardson's Owl is regarded as identical with the European Tengmalm's Owl (*Nyctale tengmalmi*). Of the Barn-Owls (*Strix flammea*), while recognizing a number of "striking forms," he says: "My conclusion with regard to the Barn Owls is, that there is one dominant type which prevails generally over the continents of the Old and New Worlds, being darker or lighter according to different localities, but possessing no distinctive specific characters. Insular birds vary, but cannot be specifically distinguished, as they can always be approached by continental specimens in a large series."

In the third volume Mr. Sharpe enters upon the great series of Passerine Birds, of which he here treats the families *Corvidæ*, *Paradiseidæ*, *Oriolidæ*, *Dicruridæ*, and *Prionopidæ*, which he unites to form the group *Coliomorphæ*, equal to the *Coliomorphæ* of Sundevall, with some genera added and others excluded. The species here described by Mr. Sharpe number three hundred and sixty-seven, all but about fifty of which are represented in the British Museum, the number of specimens being a little over two thousand. Of these four families the *Corvidæ*, or Crows and Jays, are alone represented in America, the others being mainly African, Indian, and

Australian. In respect to North American species, the Raven (*Corvus corax*) is not separated even varietally from the Raven of the Old World, Mr. Sharpe stating that the characters given by authors for their separation do not hold good in his series of specimens. In respect to changes of nomenclature among North American species, it may be noted that the old genus *Corvus* is here much subdivided, so that our Fish-Crow stands as *Corvus ossifragus*, and the Common Crow as *Corone americanus*; *Nucifraga* (Brisson, 1760) appears in place of *Picicorvus* for the Clarke's Crow, and *Cyanurus* is regarded as a synonyme of *Cyanocorax*, our Blue-Jay (*C. cristatus*) being referred to the genus *Cyanocitta*. Nearly all of the numerous forms of Western Jays (genera *Perisoreus*, *Cyanocitta*, and *Aphelocoma*), recognized as varieties by American ornithologists, are raised by Mr. Sharpe to the rank of species, two of which (*Perisoreus capitalis* and *P. obscurus*) are figured. In this volume, in fact, very few "subspecies" are recognized.

We are sorry to see in Mr. Sharpe's third volume several instances of the use of the same name in a generic and specific sense for the same species, with such ridiculous results as "*Pica pica*," "*Pyrrhocorax pyrrhocorax*," etc., which is not only opposed to good taste, to say the least, but to a very generally accepted rule of nomenclature. Also that the value of his very full bibliographical references is impaired by his not adding the date of publication. This was very uniformly done in the first volume, and to some extent in the second, and we sincerely hope he will see fit to resume the practice in his later volumes. — J. A. A.

ROWLEY'S "THE PIED DUCK." — Mr. G. D. Rowley's monographic essay on the Labrador or Pied Duck (*Somateria labradoria*) \* is a timely and exhaustive contribution to the history of a species believed to be rapidly approaching extinction. Nearly all that relates to its literary history is here brought together, the paper consisting largely of excerpts gathered from the writings of all authors who have referred to the species. While apparently of rather frequent occurrence along our Atlantic coast, as far south at least as Long Island, New Jersey, and Delaware, fifty to thirty years ago, it has of late been rarely observed and few specimens appear to have been taken since 1868. Its last-recorded capture, as appears from a letter from Mr. George N. Lawrence, published in Mr. Rowley's paper, seems to have occurred "in the fall of 1874," when a specimen was obtained by Mr. J. Wallace, from Long Island, from which source the same gentleman had obtained four or five others during the previous five years. All were females or immature males, and only one adult male is known to have been taken in the last twenty years.

\* *Somateria labradoria* (J. F. Gmelin). The Pied Duck. By G. D. Rowley, M. A., F. L. S., F. Z. S., etc., etc. Ornithological Miscellany, Vol. II, Part VI, pp. 205-223, with 5 plates, 1877. London, Quaritch, 15 Piccadilly, W.; Trübner & Co., Ludgate Hill, E. C.; R. H. Porter, 6 Tenterden St., Hanover Square, W.

Mr. Rowley here gives not only the literary history of the species, but discusses its relationship to the Eiders. Although following Mr. A. Newton in placing it in the genus *Somateria*, he does it with some degree of reservation. His paper is enriched with five plates, in which are figured the sterne of all the Eiders (*Somateria stelleri*, *S. spectabilis*, and *S. mollissima*), with that of the present species, and the bill and feet of this species and of the common Eider. A beautifully colored plate is also devoted to the illustration of the adult male, female, and young male. He has, however, to lament his ignorance of the nest and eggs, of the nestling plumage of both sexes, as well as of some of the subsequent immature stages, and calls the attention of American ornithologists to the importance of securing a scientific examination of the body of any specimen which the future may afford, notes of the color of the soft parts, and the preservation of the skeleton.

The paper also contains extracts from letters from Professors S. F. Baird and the late James Orton, and Messrs. D. G. Elliot and George N. Lawrence, concerning the recent occurrence of this bird along the Atlantic coast of North America, and closes with a list of all the specimens known to the author to be extant. These number only thirty-three, of which about twenty are preserved in different collections in the United States, and the remainder in European museums. About one half are adult males, and most of the remainder adult females. The localities, so far as known, are Long Island, New York, thirteen specimens; Calais, Me., two; Halifax Harbor, one; "Labrador," one, and one is recorded from Delhi, Michigan; eighteen in all, leaving fifteen from unknown localities.

—J. A. A.

**STREETS'S NOTES ON THE BIRDS OF LOWER CALIFORNIA AND THE HAWAIIAN AND FANNING ISLANDS.**—Dr. Thos. H. Streets's report of his Natural History explorations made in connection with the United States North Pacific Surveying Expedition of 1873-75\* includes notes on about fifty species of birds, of which rather more than one half were collected on the coast of Lower California and adjoining portions of the Mexican coast. The author acknowledges his indebtedness to Dr. Elliott Coues, U. S. A., for the identification of the birds, and adds that he has "kindly furnished the notes accompanying that portion of the ornithological collection from the Californian Peninsula." The collection contains two specimens of Mr. Lawrence's rare *Passerculus guttatus* (known previously, from a single specimen from San José del Cabo), which, though formerly regarded as a variety of the *P. rostratus*, is here provisionally accepted as

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\* Contributions to the Natural History of the Hawaiian and Fanning Islands and Lower California, made in connection with the United States North Pacific Surveying Expedition, 1873-75. By Thos. H. Streets, M. D., passed Assistant Surgeon, U. S. Navy. Bulletin of the United States National Museum, No. 7, p. 172 (Birds, pp. 9-33), Washington, 1877.

a good species. It also embraces specimens of the rare Kuhl's Parrot (*Coriphilus kuhli*) of the Fanning Islands, the precise habitat of which is now for the first time determined, and three new species, one of which, *Puffinus (Nectris) nativitatis*, from Christmas Island, is here for the first time described. The others are a Gallinule (*Gallinula sandvicensis*, Streets, *Ibis*, 1877, p. 25) from the Hawaiian Islands, and a Duck (*Chaulelasmus couesi*, Streets, *Bull. Nut. Orn. Club*, Vol. I, 1876, p. 46) from Washington Island. The breeding habits and eggs of Craver's Auk (*Brachyrhamphus craveri*) are also described, and there are many valuable biographical and other notes on several hitherto little known species. — J. A. A.

BENDIRE'S NOTES ON THE BIRDS OF SOUTHEASTERN OREGON.—In a list embracing one hundred and ninety-one species and varieties, Captain Bendire \* gives the results of field observations made in the vicinity of Camp Harney, Oregon, covering a considerable period. Aside from some former notes by the same author,† which treated more especially of the winter birds of this locality, we have here our first detailed information respecting the ornithology of the immediate region under consideration. Camp Harney, the central point, is situated on the southern slope of one of the western spurs of the Blue Mountains, and has an altitude of about four thousand eight hundred feet. The country to the northward is mountainous, and well forested with pine, spruces, and fir, intermixed with groves of aspen and juniper; in all other directions it is open, consisting of desert wastes of sagebrush and greasewood, with here and there more fertile tracts covered with nutritious grasses. As would be naturally expected, fully one half of the species are emphatically Western, or are represented by Western varieties. The fauna is distinctly, however, that of the Middle Province, although a few forms usually considered as confined to the Pacific slope are here represented. The list is enriched with copious biographical notes, including descriptions of the breeding-habits, nests, and eggs of a large number of the less well-known species, and forms a most important contribution to the ornithology of the West. — J. A. A.

RIDGWAY'S REPORT ON THE ORNITHOLOGY OF THE FORTIETH PARALLEL.—This long-delayed work ‡ has by no means lost its importance

\* Notes on some of the Birds found in Southeastern Oregon, particularly in the Vicinity of Camp Harney, from November, 1874, to January, 1877. By Captain Charles Bendire, U. S. Army. *Proc. Bost. Soc. Nat. Hist.*, Vol. XIX, pp. 109—149, Nov. 1877.

† Notes on Seventy-nine Species of Birds observed in the Neighborhood of Camp Harney, Oregon, compiled [by Dr. T. M. Brewer] from the Correspondence of Captain Charles Bendire, 1st Cavalry U. S. A. *Proc. Bost. Soc. Nat. Hist.*, Vol. XVIII, pp. 153—168, Nov. 1875.

‡ Report of Geological Explorations of the Fortieth Parallel. Clarence King, VOL. III.

through its late appearance, due to circumstances wholly beyond the control of its author. Based on field-work extending from about June 1, 1867, to the middle of August, 1869, and restricted to a comparatively limited field, not previously to any great extent explored, we have just what all the circumstances of the case would seem to warrant one in expecting, a thorough and exhaustive account of the ornithology of an interesting belt of country. The observations were mainly limited to that portion of the Great Basin included between the thirty-ninth and forty-second parallels, and extending from the Sierra Nevadas to the Wahsatch Mountains. First is given an account of the route of the survey, with a list of the camps. Then follows a short account of the physical features of the region, with a discussion of its "local avifauna," especial reference being had to the *station* of the different species represented. The term "avifauna" is hence here used in a rather unusual sense, referring rather to the habits of the species than to geographical areas. Thus we have (I) an "Arboreal Avifauna," subdivided into five categories of species, in relation to whether they frequent (1) the upper coniferous forests, (2) the cedar or nut-pine groves, (3) the aspen groves or copses, (4) the cañon shrubbery, and (5) the wooded river-valleys; (II) a "Terrestrial Avifauna," consisting of (1) birds of the sagebrush, (2) birds of the mountain meadows or peaks, and (3) birds of the lowland meadows; (III) a "Mural Avifauna," embracing (1) species strictly saxicoline, (2) species saxicoline only in nesting habits, and (3) species nesting in earth-banks; and, (IV) an "Aquatic Avifauna," consisting of aquatic species. These divisions are of course serviceable in indicating the station and habits of the different species, but do not, of course, strictly characterize faunal areas, in their usual geographical signification. "Descriptions of the localities where collections or observations were made," numbering forty-three, then follow, including lists of the species observed at each of these, where much time was spent. "General remarks on the Avifauna of the Great Basin," with an analysis of the species in reference to their geographical range, conclude the introductory portion of the Report, which forms, altogether, nearly ninety pages of exceedingly interesting matter. The "Report

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Geologist in charge. Vol. IV, Part III, Ornithology. By Robert Ridgway. 4to. pp. 303 - 670. 1877.

[As an important bibliographical matter to be remembered, it should be stated that current literature for a few years has contained repeated anticipatory citations of such a work as being then "in press," — these citations sometimes involving questions of precedence; but the work, which was stereotyped in 1870, was entirely remodelled, and never appeared in its original form. The stereotype plates were melted in 1876, and no perfect copy of the original report exists though a single mutilated set of proofs is, or was, in possession of Dr. Coues. The matter was reset in 1876 or 1877, and the entire remodelling of the subject renders previous citations of the original suppressed report frequently inapplicable. — E. C.]

Proper" consists of a general list of the species, with limited bibliographical references, and copious biographical and other notes, including lists of the specimens obtained, their measurements, color of bill, feet, iris, etc., as recorded from the fresh specimen before skinning, with a record of nests and the number of eggs found in each. Many of the biographical notices are quite extended, and add greatly to our knowledge of the species to which they pertain. The Report, as a whole, is quite free from strictly technical matter, and hence attractive to general readers and amateurs, as well as of great value to specialists. Space forbids particular reference to even the more noteworthy portions of this part of the Report, but we can scarcely omit calling attention to the account of the Western Kingbird (*Tyrannus verticalis*), in which is detailed the wonderful intelligence and affection of several young birds of this species reared as camp pets, and which became thoroughly domesticated.

Although many of the observations and results of Mr. Ridgway's field-work with the Survey of the Fortieth Parallel are not now for the first time placed before the public, the Report seems to have lost little of its freshness. Although originally prepared, and even stereotyped, as early as 1870, it has been so recast that in point of nomenclature it represents the author's later views. — J. A. A.

RECENT LISTS OF THE BIRDS OF CENTRAL NEW YORK.—In "A Directory of the Ornithologists of the United States," published at Utica, N. Y., 1877, by S. L. Willard, Esq., sixteen pages are devoted to "A List of the Birds of Central New York." The author's remarks in the way of a prelude are thus briefly expressed: "The following is a complete list of the birds of Central New York, with notes on their abundance." This might lead one to expect a valuable contribution to our science, but a perusal of the "List" proves this supposition to be erroneous. Two hundred and sixty-seven species are enumerated, and among them are mentioned *Lophophanes bicolor*, *Polioptila caerulea*, *Protonotaria citrea* ("occasional in Central districts; rare in Northern districts"), *Helminthophaga celata*, " *Seiurus ludovicianus*," *Oporornis agilis*, *Stelgidopteryx serripennis*, *Vireo philadelphicus*, *Ammodromus caudatus*, *Melospiza lincolni*, *Chondestes grammacus*, *Guiraca caerulea*, *Cardinalis virginianus* ("summer resident"), *Quiscalus major*, *Corvus "carnivorus"* ("resident"), *Empidonax acadicus*, *Campephilus principalis*, *Strix pratincola*, *Cathartes aura*, *Meleagris gallopavo* var. *americana*, *Tetrao canadensis* ("resident in Northern districts"), *Cupidonia cupido*, *Lagopus albus*, *Ægialitis wilsonius*, *Micropalama himantopus*, *Ardea egretta*, *A. candidissima*, *A. caerulea*, *Fuligula collaris*, *Historicus torquatus*, *Rhynchos nigra* ("occasional winter resident"), and many others of equal interest. But the author gives no data whatever concerning the dates and localities at which the specimens were procured; nor does he, in a single instance, mention an authority in connection with the occurrence of a species, thus holding himself responsible for all state-

ments made, a much graver responsibility than our young friend imagined when he undertook the task. Being somewhat familiar with the region to which this list pertains, I was requested to review it for the Bulletin, which circumstance led me to make inquiries of its author concerning about seventy of the species therein mentioned. Of this number he had the candor to admit that about thirty were included upon no grounds whatever, while some twenty more were taken from DeKay (and some of these were not known by DeKay, according to his own statements, to occur at all in New York State, and nearly all the others were known to him only from the vicinity of the coast, — far beyond the limits of "Central New York"). Quite a number of others rest on the strength of statements made by wholly unreliable boys, who thought they had "seen" the bird in question! On the other hand, some few species were inserted on the authority of perfectly reliable collectors (Romeyn B. Hough of Lowville, and Fred. J. Davis of Utica); but since the author did not see fit to mention authorities, it is impossible to discriminate between truth and error, and he must be held responsible for the whole. Above are the facts; I refrain from comment. It is due the author, however, to state that the "List" was prepared in great haste while the "Directory" (in which it appears) was passing through the press. He is now but "too well aware of its imperfections," and when next he favors us with a contribution it will, no doubt, be worthy of a far different criticism from that which it has been my duty to give in this instance.

A word about local lists in general: There is, I fear, among our younger and less experienced collectors a strong and lamentably contagious tendency to rush into print before having become sufficiently familiar with the habits, distribution, and relative abundance of our birds, to be capable of preparing a creditable paper. Thus it is that very truthful and well-meaning people are sometimes led to display their ignorance in a most unnecessary and unfortunate manner. And it sometimes happens that less conscientious observers, who have not yet learned the importance of substantiating their own statements, or failing to recognize the value of exact data, so far forget themselves as to yield to the temptation of swelling their lists by the addition of species concerning which they know absolutely nothing. Mistakes are always liable to occur in human productions, and are to be expected — yes, may even be looked for, perhaps, with no inconsiderable degree of confidence — in works pertaining to this particular line of research; therefore, when found, they should be corrected in a spirit of scientific charity and lenient good-will. But when a man sits down, and in cold blood writes a list of birds on the authority of his own fertile imagination, he must expect to take the consequences. "Bad lists," writes Mr. J. A. Allen, "are, of course, far worse than none at all, and if incompetent aspirants to fame in this direction will make such ventures, it is best, I think, not only for science, but for them personally to show them that such things are not to be done with impunity."

The Rathbun-Fowler list of the Birds of Central New York has already been noticed in this journal (Vol. III, pp. 34, 35). Its title is "Complete List of the Birds of Cayuga, Seneca, and Wayne Counties." Like Willard's list, it assumes too much. Ornithologists of larger experience are more modest, and seldom employ the term "complete" in connection with their own works. The paper in question, however, was evidently prepared with some caution, and when carefully revised (in which task its author is now engaged) will certainly constitute a valuable contribution to the Ornithology of the State.

In the "Auburn Daily Advertiser" of September 3, 1877, under the heading "ORNITHOLOGICAL," T. J. Wilson, M. D., remarks: "I would make the following annotations to Mr. Frank R. Rathbun's 'List' from my own observations." He then goes on to mention sixteen species; and among other equally instructive sentences, occur these: "*Turdus mustelinus*. Found breeding in great numbers on Howland's Island." "*Parus atricapillus*. Found breeding along the river in numbers, in June '76." "*Geothlypis trichas*. Breeds commonly on Howland's Island, but leaves for the South in July." "*Collurio borealis*. A not uncommon winter visitor. I have one now taken by my brother in '76." Unfortunately the author does not deem it necessary to mention, directly, to what portion of the State his list pertains (though "Central New York" is evidently implied), but if "Howland's Island" and "the river" fall within the limits of the United States, the above information is certainly of great value! He also states that "*Rallus crepitans*" was taken on *Seneca River* in August, '75, but, if not too presumptuous, I would beg leave to suggest that the bird may prove to be *R. elegans*. The finding of a nest (two eggs) of the Black Rail (*Porzana jamaicensis*) "in the reeds below Cayuga, May 30, '75," is likewise mentioned, and, if correct, is really a valuable note.

By far the best of these recent lists which I have seen, is that of "The Summer Birds of the Adirondacks in Franklin County, N. Y., by Theodore Roosevelt, Jr., and H. D. Minot. Though not redundant with information, and mentioning but ninety-seven species, it bears *prima facie* evidence of reliability,—which seems to be a great desideratum in bird-lists nowadays. Based on the sound principle of exclusion, it contains only those species which the authors have themselves observed there, and consequently furnishes that which was most needed, i. e. exact and thoroughly reliable information concerning the most characteristic birds of the limited region (Franklin County) of which they treat.

For the benefit of those who have not had experience in this matter, and who may be contemplating publication, I would suggest the observance of four simple general rules, which, if adhered to, will place the authors of future "Local Lists" beyond unpleasant criticism, and save much ill-feeling.

1. Never mention a species unless you have positive proof that it has actually been killed in the region under consideration.

2. Never mention the less common species, without stating date and locality of capture, and name of collector.
3. Always give the authority for all statements which you are not personally responsible for.
4. Never trust to the identification (much less mere *opinion*) of an inexperienced collector, but make it a rule to see for yourself, and fully identify each species. If the slightest doubt remains concerning the identity of a bird, it is far better to send it at once to some acknowledged authority than run the risk of error. — C. H. M.

BARROWS'S "CATALOGUE OF THE ALCIDÆ."—Of the twenty-one species of *Alcidæ* recognized by Mr. Barrows,\* nine appear to be unrepresented in the Society's collection ; of the remaining twelve short original descriptions are given, sufficiently detailed for the easy recognition of the species. Mr. Barrows does not think the family can be subdivided into groups of a higher than generic value. The true affinities of the species he believes can only be determined by a thorough study of their embryological development. The character of this paper indicates that in Mr. Barrows we have a valuable accession to our corps of ornithological students.—J. A. A.

FEILDEN'S "LIST OF BIRDS OBSERVED IN SMITH SOUND," etc.†—In this list Captain Feilden, R. A., enumerates twenty-four species observed by the recent British Arctic Expedition "in Smith Sound and northward, between the seventy-eighth and eighty-third degrees of north latitude," all of which are well-known Arctic forms. The land birds are *Falco candicans*, *Nyctea scandiaca*, *Plectrophanes nivalis*, *Corvus corax*, and *Lagopus rupestris*. The waders embrace *Strepsilas interpres*, *Ægialitis hiaticula*, *Calidris arenaria*, *Phalaropus fulicaria*, and *Tringa canuta*. The swimming birds include *Sterna macrura*, *Pagophila eburnea*, *Rissa tridactyla*, *Larus glaucus*, *Stercorarius longicaudatus*, *Procellaria glacialis*, *Uria grylle*, *Mergus alle*, *Alca bruennichi*, *Colymbus (septentrionalis ?)*, *Harelda glacialis*, *Somateria mollissima*, *S. spectabilis*, and *Bernicla brenta*. Most of them were repeatedly met with at different localities, some of them in considerable numbers, and many were observed breeding. The quite detailed notes respecting the species of this list render it a paper of unusual interest.—J. A. A.

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\* Catalogue of the Alcidæ contained in Museum of the Boston Society of Natural History, with a review and proposed classification of the Family. By W. B. Barrows. Proc. Boston Soc. Nat. Hist., Vol. XIX, pp. 150—185, November, 1877.

† List of Birds observed in Smith Sound, and in the Polar Basin during the Arctic Expedition of 1875—76. By H. W. Feilden. Ibis, Fourth Series, Vol. I, pp. 401—412, October, 1877.

ON THE MOULT OF THE BILL AND PALPEBRAL ORNAMENTS IN *FRATERCULA ARCTICA*.\* — The remarkable changes which the bill and eyelids of the Common Puffin undergo after the breeding season have been hitherto unknown. The author's exposition of the matter reveals a phenomenon as yet unparalleled among birds. Temminck acknowledged (Man. Orn. 2d ed. ii, 932) his inability to describe the various conditions of this common bird, and the efforts of subsequent naturalists to supply the required information have been unavailing. The Puffin is a bird which must be studied alive. Discovering that two islands off Brittany, one in the Channel and the other at sea, harbored hundreds of these birds during the breeding season, the author found the material for his investigations.

In the spring, when the birds come to breed on these islands, they are all alike in plumage and ornamentation : the cheeks are grayish-white ; the bill is high and thick opposite the nostrils ; there is a boss or bead (ourlet, a "hem") along the base of the upper mandible ; the gony is

\* *De la Mue du Bec et des Ornements Palpébraux du Macareux arctique, Fratercula arctica* (Lin.) Steph. après la saison des amours. Par le Docteur Louis Bureau. Extrait du Bulletin de la Société zoologique de France, 1877. 8vo. Paris, 1878. pp. 1-21, pll. IV, V.

The translator presents this remarkable and most important paper nearly entire, though with the utmost condensation in language, to bring it within limits. As reviewer, he need only witness the care and fidelity with which Dr. Bureau's investigations were evidently conducted, and the clearness with which the novel results are brought out. The paper is illustrated with several figures on two plates, one of them colored and furnished with movable pieces gummed on, on raising which both the process of the moult and its results are seen at a glance. How much we learn — how little we know ! Here is a bird that sheds part of its bill, and we only just now find it out, though the bird has been "known" for ages. The author's happy experience should provoke new inquiry into the various curious North Pacific species, some of which may yield up similar secrets. "*Sugmatorrhina lathami*," the "Saddle-billed Auk" was made a new genus of, though now known to be nothing more or less than *Lunda cirrhata*. The remarkable case of *Ceratorhina "suckleyi,"* = *C. nonocerata*, now seems less singular, though we do not yet know the details ; perhaps the "horn" may be moulted. *Ptychorhamphus aleuticus* has a wrinkled membrane at base of the bill, which may be something different at other times. *Simorhynchus cristellatus*, as known to us in full dress, has a curious horny formation at the angle of the mouth, wanting in the so-called *S. "dubius"* and *S. "tetraculus"*. *Simorhynchus microceros* has a curious knob or caruncle on the base of the culmen, not seen in the so-called *S. "pusillus."* M. Bureau's discovery puts the family in an entirely new light. Besides its special application, it has, what the author might have signalized, an interesting bearing on the homology of feathers with other epidermal productions ; we may now speak of the "moult" of the horny covering of the beak, as well as of the feathers. —

TRANSLATOR.

regularly convex ; the eyelids are vermillion red, and furnished with two horny plates, and there is a large yellow rosette at the angle of the mouth. The young are reared by the middle of July, and by the end of this month, or early in August, the birds go to sea ; after which not one is to be seen on the rocks so lately full of life. Autumn advances ; the Puffins are scattered over the waters, and a blank in their history ensues. But soon the wintry winds grow violent, and after some storm, hundreds of Puffins are washed ashore, dead or dying of inanition. These victims are mainly young birds ; but adults share the same fate if the storm occurs during the moult, when the loss of the quills reduces the wings to mere stumps. Three times in the winter of 1873, after storms, M. Martottan found thousands of dead Puffins rolling in the sand. Willughby and Baillou have recorded similar observations. The Puffins which are thus washed on the French coast in winter are emaciated to the last degree, and are different in plumage from those we kill in the breeding season. The orbital region is more or less blackish ; there is no red ring round the eyes, nor horny plates on the lids, nor rosette at the angle of the mouth. Still more curiously *the bill itself is differently formed* ; it has neither the same size nor shape nor color ; the horny covering even is not the same. The bill is small, without any boss at the base, and furnished opposite the nostrils with a soft grayish skin instead of a solid and bluish horny plate. Authors considered such Puffins as the *young*, until M. Vian, recognizing adults among them, described them as a new species, *Mormon graba* (Bull. de la Soc. Zool. de France, 1<sup>re</sup> année, 1876, p. 4). Neither one nor the other of these conclusions is admissible. The first supposition, of immaturity, falls before the facts the author presents ; in view of which, Vian himself has abandoned his position.

The author devotes a couple of pages to the steps of the investigation by which he was led to discover the metamorphosis he had already suspected, being at length rewarded with actual witness of the transformation. He continues : The covering of the bill of these birds, which in spring forms a solid homogeneous horny sheath, *loosened and fell apart like the pieces of a coat of mail* ; the rosette at the angle of the mouth shrivelled and grew pale ; the horny plates about the eye had fallen in some specimens and were loosened in others ; the red feet became yellow ; and finally the change of plumage began in some specimens. In a word, the adult *Larventauscher*\* grew under his eyes into what some have considered as the young of *Mormon arctica*, and into what has been called *M. graba*.

\* Brehm (Handb. der Naturg. Vög. Deutschl.) once calls the Puffin *Larventauscher*, elsewhere invariably writing *Larventaucher*. If the first orthography is correct, we may conclude that the moult of the bill was known to the fishermen of the Baltic long before M. Bureau discovered it. For *der Larventauscher* is, in effect, *der Vogel der seine Larve tauscht, l'oiseau qui change son masque, the bird that unmasks*. As to *der Larventaucher*, it properly signifies *der Tau-*

To get an idea of these remarkable changes (which the author illustrates as already described) it is first necessary to understand the composition of the bill in the adult in spring and in winter. *Fratercula arctica*, adult, in spring has the bill high at the base, with the under outline regularly curved from base to tip. The bill is divided into two very distinct parts: one posterior, which is moulted; the other anterior, and persistent.

1. The *hind part* is made up of a set of nine sutured horny pieces which come apart and fall off after the breeding season. Those of the upper mandible are: (1) the horny basal boss, 2) the nasal buckler, (3, 4) the two (one on each side) subnasal lamellæ, (5, 6) the two (one on each side) transparent lamellæ, which cover the hind part of the first ridge; and of the under mandible, (7, 8) the two (one on each side) horny selvages (corresponding to the boss on the upper mandible), and (9) the mental buckler.

2. The *fore part*, which is persistent, shows three ridges and three grooves, designated, from base to tip, as the first or great ridge, the second or middle ridge, the third or lesser ridge; the first or great groove, the second or middle groove, the third or lesser groove; the bill ending with a smooth space, forming a triangle with curvilinear base, and termed the point of the bill.

At the angle of the mouth a thickened skin, folded and scalloped, forms a large orange-yellow rosette. The ornaments of the eyelids consist of a thick vermilion-red edge, and two dark gray horny appendages, the upper one triangular, the lower elongate.

Let us now see what the appearance is in winter, or after the breeding season. The aspect is entirely different. The bill is smaller, as if cut away at the forehead, especially the under mandible, the outline of which is broken instead of forming a regular curve. We still find the two well-distinguished parts already indicated in the breeding adult; the fore part is intact, but the hind part is strangely modified *by loss of the nine horny pieces*. It has lost its thickness and its firm texture; it is covered with a thick skin, which presents on the upper mandible (1) *the membranous boss*; (2) *the nasal membrane*; and on the lower mandible (3) *the membranous selvage*, and (4) *the mental matrix*. The commissural rosette is reduced to a narrow pale yellow band. The eyelids are uncolored, and have lost the horny appendages.

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*cher mit einer Larve versehen, le Plongeon à masque, the masked Diver, — a very suitable name, though any German reader will perceive that its composition is not very happy. It is therefore not impossible that the true vernacular name was the first; though ornithologists, not understanding the allusion to the change of the "mask," would see in the final-*tauscher* nothing but the German name of Diver, *Taucher*. If *der Larventauscher, Changeur de masque, Unmasker*, is the real name of *Fratercula arctica*, it might be well restored, as none could possibly be more appropriate or expressive.*

Understanding then the conformation of the bill, both in the breeding season and in the winter, it remains to show how the change is effected. The bird acquires its full breeding array in three ways: (1) by hypertrophy, (2) by horny growths, (3) by coloration; and, conversely, loses it in three ways, (1) by atrophy, (2) by loss of the horny growths, (3) by decoloration.

The transformations of the bill relate exclusively, as already said, to the hinder part. A. UPPER MANDIBLE: 1. The *horny boss* is that forked piece which surrounds the base of the upper mandible. It is perforated with many little holes in regular oblique series, through which rudimentary *perforating feathers* pass out. In May, at the height of the breeding season, it is translucent, of a sort of flesh-color difficult to describe, more or less tinged with yellow or violet, rather variable in shade in different specimens. In falling off it loses this coloration, and becomes horn-yellow, like any claw about to be shed. It generally comes off whole, but may break apart at the top, or towards the middle of either of its forks. Its fall leaves exposed the *membranous boss*, in which the perforating feathers are implanted, and which, the following season, reproduces a new horny boss. 2. The *nasal buckler*, situated in front of the horny boss, is forked like the last, and saddled on the upper mandible, having two broad triangular sides united. It falls off in three pieces, — one large and two small. The two little pieces (one on each side) called the *subnasal lamelle* are always detached first; the large saddle-shaped piece follows; but it is so fragile that it is generally broken near the top before it finally falls off. The author, however, succeeded in securing one nasal buckler intact, this "*précieuse pièce cornée*" coming from a wounded Puffin held by the wings, who clawed it off in trying to defend himself. The nasal buckler has the effect of causing a hard horny protuberance of the nasal region, and thus thickening the base of the bill. Its loss uncovers the *nasal membrane*, which in winter shrinks away from the forehead, and the following spring produces a new buckler. 3. The pre-nasal fissure establishes the separation between the nasal buckler and the first or great ridge; in winter it is wanting, being replaced by the corresponding temporary groove. 4. The *transparent lamella* is a horny pellicle of a beautiful orange-color, which covers the hinder part of the first or great ridge, and is so closely blended therewith as to be only distinguished in spring by its coloration. This lamella grows transparent when about to fall, and is detached by exfoliation, exposing the first or great ridge, which is entirely red in winter. 5. *Ridges and grooves.* These are subject to no other changes than those resulting from simple desquamation and partial decoloration. B. LOWER MANDIBLE. Its transformations are still more curious and noteworthy. 1. The *horny selvage* is of the brightest orange in the breeding season. Its fall exposes the *membranous selvage*, which, yellow at first, soon loses its coloration. 2. The *mental buckler* represents both the nasal buckler and the transparent lamella. It comes off whole, its two sides joined

below. The fall of this large piece exposes the *mental matrix*, and a membranous triangular space, susceptible of being retracted or drawn in. This is the Triangle of atrophy (*le Triangle atrophique*) to which special attention should be paid.

The strangest change is certainly that produced in the *depth* and *shape* of the lower mandible. In the adult, in spring, the base of the lower mandible is produced (downward and backward), and the outline of the gony is a regular curve. In winter the base is narrowed or constricted, and the lower border forms two straight lines meeting at an angle. It looks as if the lower corner of the bill had been *chopped off*; and the way this comes about is as follows: Loss of the mental buckler exposes the yellowish membranous "triangle of atrophy," which gradually shrinks, and is withdrawn into the fossa formed by the slight divergence of the forks of lower jaw (i. e. into the interramal space). In some specimens the process of retraction is not accomplished at once; for after the loss of the mental buckler, the atrophic triangle is often covered with a delicate horny pellicle which exfoliates and soon falls. This disappearing triangle can only be studied on the living subject; and ornithologists should be on their guard lest they fall into error in examining specimens in course of transformation, either after complete drying or before the secondary and final exfoliation just mentioned. In default of examination of the living subject a good idea may be gained by getting a specimen in full breeding array, with a bill so thin as to be translucent at this part. In a very favorable specimen in the author's possession examined by transmitted light, the bony part of the jaw formed the shadow, the atrophic space the penumbra, while the horny tip was translucent. It is supposed that such specimens might easily be secured in April or early May, before the horny pieces are fully developed. Another good way, open to any one, is to remove the horny sheath of the mandible by prolonged maceration; when the atrophic part, thus uncovered and softened, is seen in its normal condition. The horny sheath of either mandible *will come off whole* by maceration,—the separation of the several pieces of which it is composed being a vital process only accomplished at the time of the moult.

The commissural rosette, in spring a thick naked rugous skin of a beautiful orange-color, afterwards wastes away and turns pale. The transformations of the parts about the eye seem very simple after what has gone before. The red border of the lids shrinks and loses color. The horny protuberances fall off, leaving a naked skin which rapidly shrinks and disappears.

The author concludes this remarkable paper with some pertinent and suggestive observations on other species of *Fratercula*, and on *Lunda cirrhata*. — ELLIOTT COUES, Washington, March 15, 1878.

## General Notes.

**HABITS OF THE KINGFISHER (*Ceryle alcyon*).** — The following observations are communicated by Mrs. Mary Treat, Green Cove Spring, Florida : "A Kingfisher whose feeding-ground is just in front of my windows fishes from a private wharf, where he is seldom disturbed, and has become so tame that he pursues his avocations without concern, though I may be standing within a few feet of him. I learned that he ejects from the mouth the bones, scales, or other indigestible portions of his food, just like a bird of prey. When the water is so rough that it is difficult for him to procure fish, instead of seeking some sequestered pool he remains at his usual post, occasionally making an ineffectual effort to secure his customary prey, until, nearly starved, he resorts to a sour-gum tree (*Nyssa aquatica*, L.) in the vicinity, and greedily devours the berries. Returning to his post, he soon ejects a pellet of the large seeds and skins of the fruit. I have saved some of these pellets, as well as those composed of fish-bones and scales." The remains of fish which are found in the bird's breeding-holes, giving rise to a very general impression that the nest is constructed of these materials, are probably deposited in this way. The interesting instance of the bird's feeding on fruit brings out the relationship between the truly piscivorous species and certain exotic non-aquatic representatives of the family. — ELLIOTT COUES, *Washington, D. C.*

**THE PAINTED LARK BUNTING (*Plectrophanes pictus*) IN TEXAS.** — On November 23, 1876, I saw a flock of *Plectrophanes*, which I thought were different from either *P. macconni* or *P. ornatus*, and shot one, which proved to be different. On December 20 I shot another, and on December 22 three others. One of these, being sent to Mr. Robert Ridgway, of the Smithsonian Institution, he has kindly identified it for me as *Plectrophanes pictus*, and states that this is its first record south of Illinois. They are less easily taken than *P. macconni*, as they do not fly so compactly as does that species. Their note while on the wing is a simple chirp, while the flocks of *P. macconni* keep up constant chatter while on the wing. Whether *P. pictus* is an accidental or a regular winter visitor to Texas, I am unable to state. They were quite plentiful here last winter (1876-77), but may have been driven farther south than usual by the uncommonly cold weather, which had driven away the Robins, Harris's Sparrow, and even *Plectrophanes ornatus*, all of which were abundant the previous winter. — G. H. RAGSDALE, *Gainesville, Texas.*

**NOTES ON A FEW BIRDS OBSERVED IN NEW MEXICO AND ARIZONA IN 1876.** — 1. ***Turdus migratorius*.** Winters abundantly in New Mexico ; a few summer in the high mountains.

2. **Mimus polyglottus.** Abundant in summer. Nesting in low bushes, grape-vines, etc.

3. **Harporhynchus crissalis.** I saw this species on the Gila in New Mexico, and in Arizona, in brushy broken localities. Not common.

4. **Sialia mexicana.** Abundant in winter. A few stay in the high mountains all summer.

5. **Sialia arctica.** Very scarce in winter. I saw not more than a dozen in the season. They frequent the low valleys.

6. **Auriparus flaviceps.** Sparingly found in summer in broken localities along the Gila in New Mexico, usually in the mouths of cañons at the edge of the river bottom. In Arizona frequents the mesquit. Nests in a low bushy tree, called there "hackberry." The nests are bulky, composed of thorny twigs on the outside, and lined with grass, with a small hole in one side. June 2 I found a nest containing four young birds able to fly; June 16, another nest containing three eggs. The eggs were green, much blotched with brown. Very young birds have the head uniform in color with the back.

7. **Dendroica blackburniæ.** I killed a female, near Fort Bayard, N. M., in May.

8. **Vireo vicinior.** Rare. Found in rough broken localities in the bluffs bordering the Gila, keeping in the scrub oaks. They are very shy. Their song is similar to that of *V. plumbeus*, but the pauses between the notes are not as distinct.

9. **Vireo pusillus.** Common on the Gila. Nests in willow thickets, the nest being placed in a fork of a twig, usually about two feet from the ground.

10. **Hesperiphona vespertina.** Sparingly found in piny districts in New Mexico, both summer and winter.

11. **Pipilo aberti.** February 11, I saw several birds of this species in the cottonwoods on the Gila bottom near old Fort West, N. M. They were clinging to the bark of the larger trees like Nuthatches, searching for insects in the crevices. I never saw these birds away from the immediate bottom of the Gila or its larger tributaries. They usually nest in the thick willows, although I found one nest in a cottonwood-tree, thirty feet or more from the ground, concealed in a thick bunch of the mistletoe, so common in such trees. They are abundant, but very shy at all times.

12. **Pipilo megalonyx.** Very abundant all through New Mexico and Arizona, in brushy districts.

13. **Pipilo fuscus.** Common over the same region as the last, but more partial to rocky localities.

14. **Pipilo chlorurus.** Observed on the Gila during the early spring migration.

15. **Junco oregonus.** This species, and var. *annectens*, are plenty in timber everywhere.

16. *Junco cinereus* var. *dorsalis*. Common in the high mountains. July 16, I found a nest under a tuft of grass, which contained three eggs, perfectly fresh. The eggs are, when blown, white, slightly tinged with green, speckled sparsely all over, except at the smaller end, with small brownish dots. They measure .58 x .74, .62 x .76, and. 63 x .77. I took young birds of the year in the early part of July.

17. *Corvus americanus*. I saw a flock of a dozen or so on the Rio Mimbres in April, and killed one. These were the only ones I had seen since leaving Kansas, except three seen in South Park in October, 1873, one of which I killed.

18. *Myiarchus crinitus*. I killed a male in the cottonwoods along the Gila, New Mexico, June 12.

19. *Scops asio* var. *maccallii*. On April 19 I heard a screaming noise proceeding from a Woodpecker's hole in a pine. I climbed the tree, and pulled out a female McCall's Owl, and immediately after a male Sparrow-Hawk flew out. The Owl was apparently breeding, but the hole contained no eggs.

20. *Cyrtonyx massena*. April 14 I nearly stepped on a pair of Massenas, in a trail. I stopped, and was hesitating whether to put my hat over them or step back and shoot them, when they settled the matter by flying away, both my barrels missing fire. May 12, as I was riding through the timber, I heard a Partridge fly up behind the horse. Looking back, I saw that it was a female Massena. I stopped the horse, and, without getting off, looked for the mate, and saw it lying flat in the grass within eight inches of the track of the horse's hind foot. The female will not lie as close as the male, but both lie so close that it is only by accident that they are ever seen.— F. STEVENS.

CAPTURE OF *ÆGIALITIS MELODA* VAR. *CIRCUMCINCTA*, RIDG., ON LONG ISLAND.—While collecting April 30, 1873, on the outer beach, near Rockaway, Long Island, I shot several specimens of the Piping Plover. One, an adult male, had the pectoral band complete across the jugulum, a peculiarity I could not discover in any others. The band is unusually broad, curving anteriorly somewhat, and is slightly enlarged in the middle toward the throat, giving it the outline of a top of a shield, whereas in those specimens which have the markings on the neck *nearly* meeting, the lines converge to a point in an hour-glass shape. The dimensions are, 6.77 x 14.25 x 4.65 ; tail, 2.10 ; bill, .55 ; tarsus, .90, male adult, agreeing in the main with Mr. Ridgway's type (breeding plumage, male adult, July 8, Loup Fork of the Platte, Am. Nat., VIII, 1874, 109) excepting length, which he gives as 6½ inches, which is much below the average. The same day I shot a female with just faint line of dusky uniting the dark patches of the neck, formed by the edgings only of two or three feathers, all the way across. I doubt whether this should be regarded as the female of var. *circumcincta*, however.— C. H. EAGLE.

NEST AND EGGS OF *SELASPHORUS PLATYCERCUS*. — The following interesting observations are communicated by Mr. Edwin A. Barber, of West Chester, Pa. : "While stationed in the extreme southwestern corner of Colorado, near the head-waters of the Rio la Plata, with a branch of the United States Geological Survey, during the summer of 1875, I was so fortunate as to observe large numbers of the Broad-tailed Humming-Bird. Our party was encamped on a small spring-rill, along the banks of which a thick hedge of dwarf willows had sprung up, and through and over this thicket these little birds were darting and chattering all day long. On July 26 I searched the bushes for nests, and in a couple of hours I discovered *five*, each containing two diminutive white eggs. Mr. W. H. Holmes found two more. I contented myself with securing two sets, picking out those which represented extremes of form. Both nests were composed of vegetable cotton and thistle-down, and were covered externally with lichens and bark-fibre, so that in color they resembled the twigs to which they were attached. The color and form of the two nests, however, differed materially, — one was broad, shallow, with thick walls, and of a brown color ; while the second was narrow, elevated, and of a light yellowish hue. Each of the nests was built not more than three to five feet above the ground, and not one of them was fastened to the main trunk or larger limbs of the shrubs, like the nests of our Ruby-throat. On the contrary, they were all suspended by slender swaying twigs, often directly over the flowing water. One was attached to a little piece of curled bark, which presented a horizontal resting-place, just large enough for the nest. The eggs are not distinguishable from those of *Trochilus columbris*, except that, in some instances, the former may be a trifle larger than the latter. The fact that the nests were found containing eggs in the latter part of July would indicate that two broods of young are raised during the season. All of my specimens of eggs had been laid for the space of about a week, as the embryos were all advanced to about the same stage of development, and I had great difficulty in blowing them. I believe there is no other case on record where the eggs of this species have been found in such numbers within a limited space." — ELLIOTT COUES, *Washington, D. C.*

NESTING OF *VIREO OLIVACEUS*. — Mr. W. L. Collins, of Frankford, Philadelphia, Pa., writes : "Whilst walking in a grove I found a nest of this species, upon which the female was sitting, although the framework was barely completed. Watching awhile, I presently saw the male fly to the nest with some soft substance in his bill, which he gave to his mate to arrange on the nest while he went in search of more. On then looking into the nest, I was surprised to find that it contained three eggs. Three or four days afterward, I again visited the spot, and found that the structure had been completed in the interval. Thus the female had begun to lay some time before the nest was ready for the reception of eggs." — ELLIOTT COUES, *Washington, D. C.*

**CALIFORNIAN PRAIRIE CHICKENS.** — It is always safest for naturalists to *salt down* newspaper extracts on scientific subjects, and usually best to leave them permanently in pickle, as the proverbial "grain of salt" is rarely sufficient to correct their bad savor. The severe attempts to cater to the marvelling tastes of their readers lead editors of newspapers to corrupt the foundation of facts on which stories sometimes rest, until we scarcely know whether they have any real foundation. Thus, as quoted in the "Naturalist," for February, p. 124, the "Salinas Index" of California tries to make out that the Prairie Chicken has followed the Central Pacific Railroad-track from Nebraska west to Winnemucca, and from there striking "off the track," reached Surprise and Shasta valleys, California. I can scarcely believe that Dr. Coues or any well-posted ornithologist should let such a blunder go uncorrected, but as it is, it needs only a few references to set it right.

In Vol. VI of Pacific R. R. Reports, p. 94, Dr. Newberry, in 1857, wrote that he found *Tetrao phasianellus* from Canoe Creek, fifty miles northeast of Fort Reading, Cal., more and more abundant toward the northeast into Oregon. It was, indeed, from its abundance in the Upper Columbia River country, that Ord, as long ago as 1815, named it *T. columbianus*, now retained as the name of this variety as compared with the true *T. phasianellus* of British America, both being chiefly Western birds, though extending east to Wisconsin, perhaps to Illinois, where they are confounded with the more eastern Prairie Chicken.

All this was clearly set forth in the latest work on Californian Ornithology, published in 1870, and even the southern limit near lat 39° in Nevada indicated.\*

If the species had any tendency to spread in California with the increase of agriculture, it has now had more than twenty years to do so, but from the account quoted does not seem to have made much if any progress. Attempts to naturalize it just north of San Francisco Bay have been made, but though it may succeed there, the climate of most other parts of California does not appear well suited to it. — J. G. COOPER, M. D., Haywood, Cal.

**REPORT OF THE SECOND CAPTURE OF THE ORANGE-CROWNED WARBLER (*Helminthophaga celata*) IN NEW HAMPSHIRE.** — Mr. Edward G. Gardiner, of Boston, informs me that a specimen of this rare Warbler was taken at the Isles of Shoals, September 9, 1877, by two young collectors, Messrs. Outram and Edward A. Bangs. The bird was a female, and was in company with a small flock, supposed to be of the same species, though no more were captured. Three specimens of this bird have been recorded

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\* Ridgway, in Bull. Essex Inst. 1874, gives only "Upper Humboldt Valley," near lat. 41°, but it was found near Salt Lake City, by Nelson, in 1872.

from Massachusetts and one from New Hampshire.\* — JOHN MURDOCH,  
*Roxbury, Mass.*

ROBINS' EGGS, SPOTTED. — My friend, Mr. Oliver Lockhart, of Lake George, early in June, found a Robin (*Turdus migratorius*) building in a pine-tree near his house. When the nest was completed, and the bird had laid her eggs, he was surprised to find them spotted. One, which he kindly sent me, was marked very much like a Scarlet Tanager's (*Pyranga rubra*) egg, the greater number of spots being at the larger end; the rest of it was sparingly spotted; otherwise it was a normal Robin's egg. — A. K. FISHER, *Sing Sing, N. Y.*

SOME NEW TRAITS FOR THE RED-HEADED WOODPECKER (*Melanerpes erythrocephalus*). — A remarkable instance of foresight in several birds of this species in "looking out for a rainy day ahead" has been communicated to me by my friend Mr. G. S. Agersborg of Vermilion, Dakota Ter., and I cannot do better than quote extracts from his letter: "I have forgotten to mention to you an interesting fact about *Melanerpes erythrocephalus*. Last spring in opening a good many birds of this species with the object of ascertaining their principal food, I found in their stomachs nothing but young grasshoppers. One of them, which had its headquarters near my house, was observed making frequent visits to an old oak post, and on examining it I found a large crack where the Woodpecker had inserted about one hundred grasshoppers of all sizes (for future use, as later observations proved), which were put in without killing them, but they were so firmly wedged in the crack that they in vain tried to get free. I told this to a couple of farmers, and found that they had also seen the same thing, and showed me the posts which were used for the same purpose. Later in the season the Woodpecker, whose station was near my house, commenced to use his stores, and to-day (February 10) there are only a few shrivelled-up grasshoppers left. I have now not seen this bird for over two weeks."

A similar habit is related of the California Woodpecker (*Melanerpes formicivorus*) by Dr. Heermann in California, and Mr. J. K. Lord in British Columbia; the food in this instance being acorns, which were wedged tightly in crevices, and in some cases the hollow stems of reeds were used.† — H. B. BAILEY, *New York City.*

SPURIOUS PRIMARIES IN THE RED-EYED VIREO. — On September 3, 1877, at Bar Harbor, Me., I shot a Red-eyed Vireo (*Vireo olivaceus*) which is curiously abnormal in having well-developed spurious first pri-

\* See note by William Brewster, with references, *Bulletin of the Nutt. Orn. Club*, Vol. I, No. 4, p. 94.

† See Baird, Brewer, and Ridgway, *History of Birds of North America*, Vol. II, pp. 568, 569.

maries, which measure 1.16 inches in length, the wing measuring 3.15 inches. Through the kindness of Mr. J. A. Allen, I have examined the Vireos of this species in the collection of the Museum of Comparative Zoölogy, and find in a series of about seventy specimens four more cases of the same variation. They are as follows: No. 23,281 (Coll. M. C. Z., from Coalburg, W. Va.) with spurious primaries on both wings measuring 1.17 inches (wing, 3.23); No. 23,274 (Coll. M. C. Z., same locality), with a spurious primary only on the left wing, measuring 1.10 inches (wing, 2.92); No. 4285 (Coll. M. C. Z., from Newtonville, Mass.), with spurious primaries on both wings, measuring 1.09 inches (wing, 3.02); and No. 4793 (Coll. M. C. Z., same locality) with a spurious primary on the left wing, measuring 1.15 inches, the wing measuring 3.21. It may be well to say that they are not the first primary coverts, but are true spurious primaries, lying in the same plane as the other primaries, and differing from the spurious primaries of other species of this family only in being somewhat smaller. This variation seems particularly interesting from the fact that the presence or absence of a spurious primary has been to some extent taken as a basis of classification in this family. — CHARLES F. BATCHELDER, Cambridge, Mass.

THE EUROPEAN WIDGEON (*Mareca penelope*) IN THE UNITED STATES. — I take great pleasure in noting the capture on the Atlantic coast of the United States of two specimens of *Mareca penelope*, which I am assured have not been recorded.

One is in the collection of Mr. Geo. N. Lawrence, who has kindly given me the facts concerning its capture, as far as known; the other in my own. The first, which is a fine adult male, Mr. Lawrence said he procured from a gunner who captured it on the coast of Virginia, in 1855. My specimen, an immature male, I procured in Fulton Market, N. Y., January 6, 1873, and as far as I could ascertain, it came from Southampton, L. I. — N. T. LAWRENCE, New York.

THE SHARP-TAILED FINCH (*Ammodramus caudacutus*) IN MAINE. — Dr. Brewer strangely misquotes me on page 48 of the present volume of the "Bulletin," in reference to the Sharp-tailed Finch (*Ammodramus caudacutus*). In my note to which he refers, no mention is made of the capture of a "single" specimen in Scarboro', Me., nor indeed of the capture of any specimen at all. What I did say (see Bulletin, Vol. II, p. 27) was that I had found the species a rare inhabitant of a part of Scarboro' Marsh.

Late in October, 1876, I observed a few individuals of this species on Pine Point, — a sandy strip of land which forms the seaward extremity of the great Scarboro' Marshes. Aside from the fact that this was considerably to the east of their previously known range, I was surprised to find them here, for I had carefully examined the Point and its vicinity, at other seasons of the year, without detecting a single specimen. Accord-

ingly, during the season of 1877, I made the Sharp-tailed Finch the object of almost daily expeditions, from early spring until late autumn; but, in confirmation of my suspicions, not a bird was to be found until about October 1. At that date great numbers appeared on the marshes and sea beaches adjacent to Pine Point, and for a couple of weeks they fairly swarmed in their favorite haunts. They were noticeably less numerous during the latter part of the month, and by November 1, only stragglers remained. I captured the last of the season on November 15.

To the best of my knowledge, then, although abundant during the autumnal migration, the Sharp-tailed Finch is not to be found in this vicinity during the spring and summer months. — NATHAN CLIFFORD BROWN, *Portland, Me.*

THE WHITE-THROATED WARBLER (*Helminthophaga leucobronchialis*) IN CONNECTICUT. — Through the kindness of Mr. Charles M. Carpenter of Providence, R. I., I have lately had the pleasure of examining a specimen of this recently described Warbler, which was shot by that gentleman at Wauregan, Conn., May 25, 1875. The locality was a wild hill-side covered with scrub-oaks and a sprinkling of young pines. Mr. Carpenter's attention was first drawn to its presence by its song, which at the time he mistook for that of the Golden-winged Warbler (*H. chrysopetra*), though he thinks that it differed in being somewhat higher and shriller. The sex of this bird was not determined by dissection, but it is unquestionably a male. It agrees closely in every particular with my type of the species, as does also Mr. Wood's specimen, which I have likewise seen at Philadelphia. Indeed, it would be difficult to select three individuals of any species which vary so little *inter se*. The olive-green wash which is spread over the upper parts, with the exception of the nape, where an area of unmixed bluish-ash forms a narrow collar, is a marked feature in all three specimens, though the silky white of throat, cheeks, and lower eyelids, with the narrow restricted black line through the eye, may be regarded as the most salient points. The validity of this distinctly characterized species must now be regarded as established, but further facts relating to its habits and distribution remain to be elicited by future investigation. — WILLIAM BREWSTER, *Cambridge, Mass.*

THE OCCURRENCE OF *MYIARCHUS CRINITUS* VAR. *ERYTHROCERCUS*, *SCLAT.*, AT FORT BROWN, TEXAS.\* — This bird appears to be a rather abundant summer visitor in the vicinity of Fort Brown, and during the last two summers I have taken specimens at intervals from April 1 until the latter part of September. It bears a close resemblance to var. *crinitus*,

\* In justice to the author it should be stated that this note was received for publication December 5, 1877, and was unavoidably omitted from the January number. Compare Bull. U. S. Geol. and Geogr. Survey of the Terr., Vol. IV, No. 1 (Feb. 5, 1878), p. 33, fifth paragraph. — Eds.

and I was not aware of its being a distinct variety for a considerable time. I cannot at present say certainly whether var. *crinitus* breeds here, but am inclined to think that it occurs only in the spring and autumn.

A set of eggs, identified by the capture of one of the parents, was taken on the 10th of May, 1877. The nest was placed in the end of a broken branch of an anacahuite tree, about ten feet from the ground; it was made of locks of wool and hairs, and contained five eggs slightly advanced. These measure .94 x .69. Besides this identified nest two others were found, but, thinking at the time that they were of true *crinitus*, I did not shoot the parents. Of these, one was taken, May 14, in an old excavation of *Centurus aurifrons*, and contained three fresh eggs. They are larger than those of the first set (1.01 x 0.70), the ground-color darker, and the markings heavier. The third nest was in a hollow stump less than two feet from the ground, and on June 4 contained six young.

It is worthy of note that no snake-skins were used in the construction of these nests.—J. C. MERRILL, M. D., Assistant Surgeon, U. S. A., *Fort Brown, Texas.*

[I have carefully compared the two sets of the eggs of *M. erythrocerus*, here referred to, with sets of *M. crinitus*, *M. cinerascens*, *M. cooperi*, and *M. stolidus*. These all have a strong family resemblance, those of the *erythrocerus* being distinguishable by larger size and much greater abundance of large confluent blotches of lilac and purplish brown. The eggs described in North American Birds (Vol. II, p. 339) as those of *M. cinerascens* undoubtedly are really eggs of this species.—T. M. BREWER.]

**THE GOLDEN EAGLE IN THE HUDSON HIGHLANDS.**—This splendid bird, which was formerly quite characteristic of this wild mountainous region, is now becoming quite scarce. It was formerly known to nest upon the cliffs on the west side of the Hudson, north of West Point; and it is still a problem whether at least one pair do not still breed there.

I have never been able to discover any nest, though I have carefully examined each of the three principal ledges lying between West Point and Cornwall; but these cliffs are so vast and inaccessible, that it is impossible to examine them satisfactorily from either top or bottom, even with the aid of a good glass. As I have seldom undertaken these fatiguing excursions during their breeding season, I have not ascertained the fact of their presence there at that season; but in winter I have occasionally seen a single individual flying near the top of the mountains.

Several years ago, a Golden Eagle was shot opposite those cliffs by a farmer at Cold Spring, while in the act of destroying a goose belonging to the farmer.

A few days since, through the kindness of my friends, Professor Robert Donald and Mr. Sanford R. Knapp, of Peekskill, I examined a finely mounted specimen of this Eagle, in the possession of the latter gentleman. It was in the plumage of the young male (the basal two-thirds of the tail

being white), and measured seventy-eight inches in expanse. It was shot by a farmer three miles east of Peekskill, on the 16th of November, 1877. A third specimen was taken in the Palisades of the Lower Hudson in October, 1875. This was a fine adult specimen. The sportsman who shot it said that "he saw it in a tree over his head, and killed it with a charge of No. 9 shot."

I have seen this Eagle on several occasions, but never in summer. In March, 1876, two Golden Eagles were found in a certain spot in Putnam County for several weeks, but I did not succeed in shooting them. In April, 1872, I saw one twice, whose tail was all white, save a narrow terminal bar of black.

An aged hunter, Mr. William LeForge, positively asserts that Eagles nest upon the cliffs north of West Point. In support of this statement, he related to me, in substance, the following circumstance: A few years ago, (about ten?) on the occasion of the death of an old man, who lived the life of a hermit, near the summit of a mountain between "Cro's Nest" and "Storm King," the remains had to be carried down to the foot of the mountain to the river. On their way down the company (conducted by LeForge) halted at the foot of a ledge, where their attention was attracted to the "hissing" of some young Eagles on the rocks above them. — EDGAR A. MEARNs, *Highland Falls, N. Y.*

MEANING OF THE WORD "ANHINGA." — Correspondence of interest respecting etymologies of ornithological names with W. C. Avery, of Contentment, Ala., elicits the following derivation and meaning of the strange-looking word "Anhinga," as applied to the Snake-birds (species of *Plotus*).

"Thinking it probably Spanish, I sought it in Leone's Dictionary, where I found, not *Anhinga*, but *Anhina*, 'an aquatic bird of prey in Brazil, called the Darter, *Plotus*.' *Anhina* is undoubtedly the Spanish or Portuguese word; but how has it been corrupted into *Anhinga*? In a French Encyclopædia I find the following: 'Anhinga, nom brésilien de ces oiseaux. .... La longueur démesurée de leur cou, jointe à sa minceur, leur donne une figure étrange .... on dirait des canards qui ont pour cou un long serpent.' Hence the name 'Snake-bird,' Portuguese *Anhina*, from the Latin *Anguina*? (*Anguis*, a snake)." This derivation seems to be undoubtedly correct, *Anhinga* being corrupted from *Anhina*. — ELLIOTT COUES, *Washington, D. C.*

LATE CAPTURE OF THE YELLOW-BELLIED FLYCATCHER IN MASSACHUSETTS. — Mr. W. B. Barrows informs me that on November 29, 1876, he took a male *Empidonax flaviventris*, at Reading, Mass. The day was so cold that ice was forming rapidly in the shade; yet the bird had the same motions which characterize it in June, and though it had an empty stomach, was very fat and apparently in the best of spirits. It was, however, silent so far as was observed. I also learn from Mr. H. A. Purdie

that a specimen of this species was taken by Mr. W. W. Eager in Newton, Mass., December 1, 1876. These are certainly late dates for the capture of any species of the genus *Empidonax* in Massachusetts. — J. A. ALLEN, Cambridge, Mass.

**THE IPSWICH SPARROW (*Passerculus princeps*) ON LONG ISLAND, N. Y.** — On the 1st of January, 1878, I took a fine specimen of the *Passerculus princeps* at Rockaway, Long Island. The bird when taken was in company with Savanna and Tree Sparrows (*Passerculus savanna* and *Spizella a monticola*), and was found among a low range of sandhills that skirt the main shore of the bay at Far Rockaway. Another was observed the same day, but, being very wild, I was unable to procure it. This makes the fifth specimen that has been taken in the same locality: the first in December, 1870, the second and third in November and December, 1872, the fourth, November, 1874, and the fifth, January, 1878. — N. T. LAWRENCE, New York City.

**THE STILT SANDPIPER (*Micropalama himantopus*) AT PORTLAND, MAINE.** — Mr. H. A. Purdie, in his review of a recent "Catalogue of the Birds of New England," stated (this Bulletin, Vol. I, p. 73) that *Micropalama himantopus* is migratory along the whole New England coast. This elicited the rather sweeping assertion from the author of the Catalogue that the bird had "not been found in any part of that coast from St. Andrews to Kittery" (Bull., Vol. II, p. 48). I desire to contribute my evidence in support of Mr. Purdie's statement. *M. himantopus* has been repeatedly taken on the marshes and sandbars in the vicinity of Portland, Me., during the early part of autumn. — NATHAN CLIFFORD BROWN, Portland, Me.

**NESTING-HABITS OF PARUS MONTANUS.\*** — The nest was built at the bottom of a seam in a very rotten stump. The top of the seam was two feet from the ground, the bottom about a foot below the entrance. The bird had slightly and irregularly enlarged the passage to the nest, which was composed of fibrous roots, lined with wool gathered from the bushes where sheep had grazed, and contained seven white eggs.†

I visited the nest daily for some time, and finally found the female sitting. As I neared the stump I was somewhat startled by a loud hissing noise, and looked in at the nest expecting to find a snake, but discovered only the owner, who, with wings outspread, mouth open, and eyes glistening, hissed almost continually. I desired to see the nest, and tried to drive her from it by violently striking the stump, but she was not to be dislodged so easily, and I left her, hoping to find her not at home next

\* Communicated by R. Ridgway.

† It would be interesting to know whether the eggs are spotted or not; if unspotted, they form a notable exception to the rule in this genus. — R. R.

morning. Upon my next visit, the day after, she greeted me again with hisses and other demonstrations of anger ; and after watching her several minutes, during which time she kept up her attitude of defiance, I again left her mistress of the situation. The next morning she saluted me as before, but being by this time determined to examine the nest I inserted a stick, at which she advanced, pecking and hissing vigorously. She fought long and well, but might finally prevailed, and she slipped out, as she could have done at any time if so inclined, and flew to a neighboring tree, from which she watched me with much interest and indignation. She returned to her nest soon after I had left it. After the rough treatment of this occasion, she would invariably leave the nest at my approach, doubtless hearing my footsteps, as she could not possibly see me.

Some days after this, I found a pair of these birds building in a low stump which stood in a meadow, but I did not remain in the neighborhood long enough to learn the number of eggs or test the courage of the female while incubating. — L. BELDING, *Marysville, Cal.*

**PERSISTENCY IN NEST-BUILDING BY A PAIR OF CITY ROBINS.**— Mr. H. H. Clark of this city has kindly placed at my disposal some very interesting observations made by him last season relative to the perseverance displayed by a pair of Robins (*Turdus migratorius*) at nest-making under difficulties. A pair of these birds selected for a nesting-site a place in his garden so frequented by cats—the great enemy of town-breeding birds—that it seemed certain the young, if not, indeed, the mother-bird, would be destroyed by them if the birds were allowed to build in the place they had chosen. So, in order to avoid the threatened danger to the brood, as well as the pain of witnessing their destruction, Mr. Clark resolved to intercept their work, hoping thereby to force them to choose a safer nesting-place. He accordingly pulled down their partly formed nest. The next morning there was a great outcry from the birds over their loss, and no little commotion among the other Robins of the neighborhood. To his surprise the birds immediately set to work to rebuild the nest, aided by several of their sympathizing neighbors, who brought materials faster than the architect seemed able to properly bestow them, so that in a single morning considerable progress was made with the new structure. The next morning the birds found their nest had been again destroyed. Not a whit discouraged, they resumed their labors, building again in the same spot as before, but this time without help. The nest was now constructed with greater care, being securely fastened by strings passed round the branch on which it rested, which were also carried up and made fast to a limb above. These precautions availed them nothing, for this nest shared the fate of the others. An act begun in a spirit of kindness toward the birds was now continued in the interest of scientific investigation. A fourth time the persistent birds rebuilt their nest at the same spot, with to them

the same sad result. For the fifth time they began to rebuild the nest ; this was too much for my informant's feelings to resist, and he resolved to let them carry out their plans. To his surprise, however, they soon began to destroy the structure themselves, taking the materials to a branch higher up, as if divining not only the source of their troubles, but the reason that had prompted the repeated removal of their nest ; but after a morning's work the nest was abandoned, and another site for it was selected some rods away in a safer position. Here again, however, they later came to grief, their eggs being taken by a ruthless boy, an habitual robber of bird's-nests.

The interesting points here brought out are the tenacity with which this pair of Robins adhered to their chosen nesting-place ; the concerted action of their sympathizing neighbors in aiding them at first to rebuild ; the later greater care they displayed in more firmly attaching the nest to its resting-place ; and finally the apparently intelligent recognition of the source and cause of their troubles, and voluntary choice of a safer location.

— J. A. ALLEN, *Cambridge, Mass.*

**DEADLY COMBAT BETWEEN AN ALBINO ROBIN AND A MOLE.** — The following interesting and curious incident is quoted from a letter received by me from Miss Maria R. Audubon, granddaughter of the celebrated naturalist, dated Newark, N. J., February 4, 1878. — RUTHVEN DEANE.

" We have had a Robin of the albino type which for two years has built its nest in the same tree, and devoured an immense number of worms from the lawn around the house. It became quite tame, and we naturally felt a sort of ownership in it. One morning I saw something moving or jumping on the ground just under the tree, and on investigation it proved to be the Robin engaged in deadly combat with a mole. I tried to drive the Robin away, and found the mole had it firmly held by the wing. I set it free, and poked the mole off with a stick to some distance. . . . .

The Robin flew to a branch of the tree, did not seem much hurt, plumed itself, and finally disappeared among the foliage ; the mole, too, made off in an unknown direction. I could find no reason for this unusual battle ; no corpses of young Robins could be seen to make feasible the suggestion that a fledgling had fallen from the nest and been attacked by the mole, thereby bringing down the wrath of the parent bird ; we knew the mole had not climbed the tree, and we had never heard of a Robin eating a mole.

" Neither party was seen again that day till towards evening, when the Robin was again on the lawn as usual. The next morning I passed the tree about the same hour as on the previous day, and there lay the mole and the Robin, 'beautiful in death,' to use a poetic license, for they really looked very unpleasant. Their bodies were not cold ; the Robin very much ruffled as to plumage and bloody about the throat and under the right wing ; the mole with his glossy coat 'all the wrong way,' and severely pecked about the head and throat. There was no life in either after I found them."

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THE EAVE, CLIFF, OR CRESCENT SWALLOW (*PETROCHELIDON LUNIFRONS*).\*

BY DR. ELLIOTT COUES, U. S. A.

DISCOVERY of this notable Swallow, commonly attributed to Say, was made long before Long's expedition to the Rocky Mountains, though the species was first named in the book which treats of that interesting journey. The bird may have been discovered by the celebrated John Reinhold Forster; at any rate, the earliest note I have in hand respecting the Cliff Swallow is Forster's, dating 1772, when this naturalist published in the *Philosophical Transactions* "An Account of the Birds sent from Hudson's Bay; with Observations relative to their Natural History; and Latin Descriptions of some of the most Uncommon," — a rather noted paper, in which seven new species, viz., *Falco spadiceus*, *Strix nebulosa*, *Emberiza* [i. e. *Zonotrichia*] *leucophrys*, *Fringilla* [i. e. *Junco*] *hudsonias*, *Muscicapa* [i. e. *Dendracca*] *striata*, *Parus hudsonicus*, and *Scolopax* [i. e. *Numenias*] *borealis*, are described, with references to various other new birds by number, such as " *Turdus* No. 22," which is *Scoleophagus ferrugineus*, and " *Hirundo* No. 35," which is *Petrochelidon lunifrons*. The next observer — in fact, a rediscoverer — was, perhaps, Audubon, who says that he saw Republican or Cliff Swallows for the first time in 1815 at Henderson, on the Ohio; that he drew up a description at the time, naming the species *Hirundo republicana* [sic]; and that he again saw the same bird in 1819 at Newport, Ky., where they usually appeared about the 10th of

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\* By permission, from advance sheets of the "Birds of the Colorado Valley," Vol. I.

April, and had that year finished about fifty nests by the 20th of the same month. The next year, namely, 1820, Major Long and Sir John Franklin found these birds again, in widely remote regions,—the first named during his expedition to the Rocky Mountains, and the latter on the journey from Cumberland House to Fort Enterprise, and on the banks of Point Lake, in latitude 65°, where its earliest arrival was noted the following year on the 12th of June. Dr. Richardson says that their clustered nests are of frequent occurrence on the faces of cliffs of the Barren Grounds, and not uncommon throughout the course of the Slave and Mackenzie's Rivers; and that their first appearance at Fort Chipewyan was on the 25th of June, 1825. Major Long's discovery was named *Hirundo lunifrons* by Say in 1823; and the following year Audubon published his hitherto MS. name *republicana* in the Annals of the New York Lyceum of Natural History, with some remarks on the species, in connection with some observations of Governor De Witt Clinton, who called the bird *Hirundo opifex*. Meanwhile, Vieillot had described the West Indian conspecifics as *Hirundo fulva*; and the future Prince Bonaparte adopted this name for our species in 1825. Thus in the short space of two years, 1823–25, the interesting Anonyma, "No. 35," before known only by number, like the striped inmates of some of our penal establishments, suddenly became quite a lion, with titles galore in the binomial *haut ton*. But it was not till 1850 that it was actually raised to the sublime degree of *Petrochelidon*, though it had long been taken and held to be a master-mason.

The Cliff Swallow has been supposed by some to be an immigrant of comparatively recent date in the Eastern United States; but it does not appear that any broad theory of a general progressive eastward extension is fairly deducible from the evidence we possess. On the contrary, much of the testimony is merely indicative of the dates, when, in various parts of the country, the birds began to build under eaves, and so established colonies where none existed before; and some of the evidence opposes the view just mentioned. The Swallows, as a rule, are birds of local distribution in the breeding season, notwithstanding their pre-eminent migratory abilities; they tend to settle in particular places, and return year after year; and nothing is better known than that one town may be full of Swallows of several kinds unknown in another town hard by. I suppose the real meaning of the record is "only this and nothing

more." Nevertheless, these accounts are interesting, and all have their bearing on the natural history of this remarkable bird. It was unknown to Wilson. In 1817, between Audubon's times of observation in Kentucky, Clinton says he first saw Eave Swallows at Whitehall, New York, at the southern end of Lake Champlain. Zadock Thompson found them at Randolph, Vt., about the same time. Mr. G. A. Boardman tells me that they were no novelty at St. Stephens, New Brunswick, in 1828. Dr. Brewer received their eggs from Coventry, Vt., in 1837, when they were new to him; but the date of their appearance there was not determined. They are said by the same writer to have appeared at Jaffrey, N. H., in 1838; at Carlisle, Pa., in 1841; and the appearance of a large colony which he observed at Attleborough, Mass., in 1842, indicated that they had been there for several years. During the last-mentioned year they were present, apparently for the first time, in Boston and neighboring metastatic foci of the globe. The record also teaches that these birds do not necessarily change from "Cliff" to "Eave" Swallows in the East, for in 1861 Professor Verrill discovered a large colony breeding on limestone cliffs of Anticosti, remote from man, and in their primitive fashion. That the settlement of the country has conduced to the general dispersion of the birds during the breeding season in places that knew him not before, is undoubted; but that any general eastward migration ever occurred, or that there has been in recent times a progressive spread of the birds across successive meridians, is less than doubtful, — is almost disproven. Birds that can fly like Swallows, and go from South America to the Arctic Ocean, are not likely to cut around *via* the Mississippi or the Rocky Mountains, houses or no houses. Moreover, the scarcity or apparent absence of these birds in the Southern States, or most portions thereof, may be simply due to the ineligibility of the country, and only true for a part of the year. It cannot be that the breeding birds of Pennsylvania, New York, and New England come and go by other than a direct route; and if not detected in the Southern States, it must be because they fly over the country in their migrations, and do not stop to breed. It is authenticated that they nest at least as far south as Washington, D. C., where Drs. Coues and Prentiss found them some twenty years ago to be summer residents, arriving late in April and remaining until the middle of September, though they were not as abundant as some of the other swallows.

It may be remembered in this connection that a happy conjunction of circumstances is required to satisfy these birds. Not only are cliffs or their substitutes necessary, but these must be situated where clayey mud, possessing some degree of adhesiveness and plasticity, can be procured. The indication is met at large in the West, along unnumbered streams, where the birds most do congregate; and their very general dispersion in the West, as compared with their rather sporadic distribution in the East, is thus readily explained. The great veins of the West,—the Missouri, the Columbia, and the Colorado,—and most of their venous tributaries, returning the humors from the clouds to their home in the sea, are supplied in profusion with animated congregations of the Swallows, often vastly more extensive than those gatherings of the feathered Sons of Temperance beneath our eaves, where the sign of the order — a bottle, neck downward — is set for our edification.

All are familiar, doubtless, with the architecture of these masons; if any be not, the books will remove their ignorance. But there are many interesting details, perhaps insufficiently elucidated in our standard treatises. It is generally understood that the most perfect nest, that is, a nest fully finished and furnished with a neck, resembling a decanter tilted over, — that such a "bottle-nosed" or "retort-shaped" nest is the typical one, indicating the primitive fashion of building. But I am by no means satisfied of this. Remembering that the Swallows are all natural hole-breeders, we may infer that their early order of architecture was a wall, rampart, or breastwork, which defended and, perhaps, enlarged a natural cavity on the face of a cliff. Traces of such work are still evident enough in those frequent instances in which they take a hole in a wall, such as one left by a missing brick, and cover it in, either with a regular domed vestibule or a mere cup-like rim of mud. It was probably not until they had served a long apprenticeship that they acquired the sufficient skill to stick a nest against a perfectly smooth, vertical support. Some kind of domed nest was still requisite, to carry out the idea of hole-breeding, a trait so thoroughly ingrained in Hirundine nature, and implying perfect covering for the eggs; and the indication is fully met in one of the very commonest forms of nest, namely, a hemispherical affair, quite a "breastwork" in fact, with a hole at the most protuberant part, or just below it. The running on of a neck to the nest, as seen in those nests we consider the most elaborate, seems to merely represent a surplusage of

building energy, like that which induces a House Wren, for example, to accumulate a preposterous quantity of trash in its cubby-holes. Such architecture reminds me of the Irishman's notion of how cannon are made, — by taking a hole and pouring the melted metal around it. It is the rule, when the nest is built in any exposed situation. But since the Swallows have taken to building under eaves, or other projections affording a degree of shelter, the bottle-necked, even the simply globular nests seem to be going out of fashion ; and thousands of nests are now built as open as those of the Barn Swallow, being simply half-cups attached to the wall, and in fact chiefly distinguished from those of Barn Swallows by containing little or no hay. I suppose this to be a piece of atavism,—a reversion to primitive ways. The Barn and Eave Swallows are our only kinds that do not *go into a hole* or its equivalent ; and the indication of shelter or covering, in all cases indispensable, being secured by the roof itself beneath which they nestle, the special roofing of each nest becomes superfluous. Hence the open cups these Swallows now construct.

Considering how sedulously most birds strive to hide their nests, and screen themselves during incubation, it becomes a matter of curious speculation why these Swallows should ever build beneath our eaves, in the most conspicuous manner, and literally fly in the face of danger. Richardson comments on this singular and excessive confidence in man, too often betrayed, and which cannot, on the whole, be conducive to the best interests of their tribe. He speaks of a colony that persisted in nesting just over a frequented promenade, where they had actually to graze people's heads in passing to and from their nests, and were exposed to the curiosity and depredations of the children ; yet they stuck to their first choice, even though there were equally eligible and far safer locations just at hand. Sir John wonders what cause could have thus suddenly called into action such confidence in the human race, and queries what peculiarity of economy leads some birds to put their offspring in the most exposed situation they can find. We have all seen the same thing, and noted the pertinacity with which these and other Swallows will cling to their caprices, though subjected to every annoyance, and repeatedly ejected from the premises by destruction of their nests. I have two notable cases in mind. At Fort Pembina, Dakota, a colony insisted on building beneath the low portico of the soldiers' barracks, almost within arm's reach. Being noisy

and untidy, they were voted a nuisance, to be abated ; but it was "no use" ; they stuck, and so did their nests. In the adjoining British province of Manitoba, at one of the trading-posts I visited, it was the same thing over again ; their nests were repeatedly demolished, on account of the racket and clutter they made, till the irate lord of the manor found it cheaper in the end to let the birds alone, and take his chances of the morning nap. I think such obstinacy is due to the bird's reluctance to give up the much-needed shelter which the eaves provide against the weather, — indeed, this may have had something to do with the change of habit in the beginning. The Cliff Swallow's nest is built entirely of mud, which, when sun-baked into "adobe," is secure enough in dry weather, but liable to be loosened or washed away during a storm. In fact, this accident is of continual occurrence, just as it is in the cases of the Chimney-Swifts. The birds' instinct, — whatever that may mean ; I despise the word as a label of our ignorance and conceit, — say, rather, their reason, teaches them to come in out of the rain. This may also have something to do with the *clustering* of nests, commonly observed when the birds build on the faces of cliffs ; for obviously such a mass would withstand the weather better than a single edifice.

It is pleasant to watch the establishment and progress of a colony of these birds. Suddenly they appear, — quite animated and enthusiastic, but undecided as yet ; an impromptu debating society on the fly, with a good deal of sawing the air to accomplish before final resolutions are passed. The plot thickens ; some Swallows are seen clinging to the slightest inequalities beneath the eaves, others are couriers to and from the nearest mud-puddle ; others again alight like feathers by the water's side, and all are in a twitter of excitement. Watching closely these curious sons and daughters of Israel at their ingenious trade of making bricks, we may chance to see a circle of them gathered around the margin of the pool, insecurely balanced on their tiny feet, tilting their tails and ducking their heads to pick up little "gobs" of mud. These are rolled round in their mouths till tempered, and made like a quid into globular form, with a curious working of their jaws ; then off go the birds, and stick the pellet against the wall, as carefully as ever a sailor, about to spin a yarn, deposited his chew on the mantel-piece. The birds work indefatigably ; they are busy as bees, and a steady stream flows back and forth for several hours a day, with intervals for rest

and refreshment, when the Swallows swarm about promiscuously a fly-catching. In an incredibly short time the basement of the nest is laid, and the whole form becomes clearly outlined ; the mud dries quickly, and there is a standing-place. This is soon occupied by one of the pair, probably the female, who now stays at home to welcome her mate with redoubled cries of joy and ecstatic quivering of the wings, as he brings fresh pellets, which the pair in the closest consultation dispose to their entire satisfaction. In three or four days, perhaps, the deed is done ; the house is built, and nothing remains but to furnish it. The poultry-yard is visited, and laid under contribution of feathers ; hay, leaves, rags, paper, string — Swallows are not very particular — may be added ; and then the female does the rest of the "furnishing" by her own particular self. Not impossibly, just at this period, a man comes with a pole, and demolishes the whole affair ; or the *enfant terrible* of the premises appears, and removes the eggs to enrich his sanded tray of like treasures ; or a tom-cat reaches for his supper. But more probably matters are so propitious that in due season the nest decants a full brood of Swallows, — and I wish that nothing more harmful ever came out of the bottle.

Seeing how these birds work the mud in their mouths, some have supposed that the nests are agglutinated, to some extent at least, by the saliva of the birds. It is far from an unreasonable idea, — the Chimney-Swift sticks her bits of twigs together, and glues the frail cup to the wall with viscid saliva ; and some of the Old World Swifts build nests of gummy spittle, which cakes on drying, not unlike gelatine. Undoubtedly some saliva is mingled with the natural moisture of the mud ; but the readiness with which these Swallows' nests crumble on drying shows that saliva enters slightly into their composition, — practically not at all, — and that this fluid possesses no special viscosity. Much more probably, the moisture of the birds' mouths helps to soften and temper the pellets, rather than to agglutinate the dried edifice itself.

In various parts of the West, especially along the Missouri and the Colorado, where I have never failed to find clustering nests of the Cliff Swallow, I have occasionally witnessed some curious associates of these birds. In some of the navigable cañons of the Colorado I have seen the bulky nests of the Great Blue Heron on flat ledges of rock, the faces of which were stuccoed with Swallow-nests. How these frolicsome creatures must have swarmed around the

sedate and imperturbable Herodias, when she folded up her legs and closed her eyes, and went off into the dreamland of incubation, undisturbed in a very Babel! Again, I have found a colony of Swallows in what would seem to be a very dangerous neighborhood, — all about the nest of a Falcon, no other than the valiant and merciless *Falco polyagrus*, on the very minarets and buttresses of whose awe-inspiring castle, on the scowling face of a precipice, a colony of Swallows was established in apparent security. The big birds seemed to be very comfortable ogres, with whom the multitude of hop-o'-my-thumbs had evidently some sort of understanding, perhaps like that which the Purple Grackles may be supposed to have with the Fish-Hawks when they set up housekeeping in the cellar of King Pandion's palace. If it had only been a Fish-Hawk in this case instead of *Falco polyagrus*, we could understand such amicable relations better, — for Cliff Swallows are cousins of Purple Martins, and, if half we hear be true, Progne was Pandion's daughter.

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#### NEST AND EGGS OF THE BLUE CROW (*GYMNOKITTA CYANOCEPHALA*).

BY H. W. HENSHAW.

THE Blue Crow, or Maximilian's Jay, is one of the most notable and characteristic of the birds inhabiting the Interior Region, to which it is very closely confined, and of the limits of which its presence may be accepted as an almost certain indication. Notwithstanding the fact that upon the Pacific slope are found in greatest abundance the same trees from which the bird derives the main part of its subsistence, the yellow pine, piñon, and juniper, it shuns the west side of the Sierras, and occurs only within the limits of the great interior basin and upon the eastern slope of the Rocky Mountains. As its powers of flight are most ample, it is within this area confined to no special limits of locality. By the Mexicans it is called the Piñonario or Piñon Bird, and most appropriately is it named; for, wherever within the limits assigned this tree is found, there, at any season of the year, but especially in fall,

may the presence of this bird be confidently expected. Although having no liking for the heavy coniferous forests, it being the very rare exception to find the species therein, it yet shares with the Clarke's Crow a fondness for the seeds of the yellow pine, and in winter, the supply of piñon nuts failing, and where the country is but sparsely timbered, it will often be found plundering these trees of their nutritious seeds.

Finally, juniper berries may be mentioned as making the third most important item of fare. But doubtless during a bad year any of the smaller seeds are acceptable, and perhaps berries do not come amiss. Certainly I have more than once seen these Jays massing into flocks on the ground and feeding greedily upon grass seeds, and others report a similar experience.

To none of our species can the term "resident" be applied with more exactness than to the present bird. Although its roving disposition is perfectly apparent at all seasons, and although, except during the limited period of parental duties, its excursions are constant and wide, yet in no part of its wide range does it appear to be migratory, as the term is correctly understood. I have never myself found it living among the high mountains, and believe this is contrary to its more usual habits. But in Arizona, according to Dr. Cones, it is so found, and there, as he suggests, it doubtless does migrate to the extent of forsaking them in winter for the more congenial lower districts. Usually, however, no change of habitat with varying season takes place, and, wherever it occurs in summer, it is also to be seen in winter; although the ever-restless bands cover in their journeyings a radius of many miles, being seen here to-day, to-morrow there, according as their tastes suggest a change of diet, or as mere caprice may urge. Thus they may often appear to have migrated from a district which in reality they have left only to return to in a few days. Its gregarious disposition is one of its most marked and constant traits, and has been recorded by all who have ever seen the species in the field. This close association of many individuals appears to persist throughout the year, as well during the breeding as at other seasons.

Although so common and, in many respects, so well known a bird, the acquaintance of most of its many observers has ceased with the beginning of the nesting period, and it has been only within a comparatively short time that any information of its habits at this season has reached us. Mr. Ridgway was the first to supply any exact

facts ; but his experience was limited to the discovery of the nests and young, which he found fully fledged as early as April 21. This was in 1868, and the eggs remained undescribed till 1875, when Mr. Aiken secured a nest with its complement in Colorado.

For additional information concerning the nests and eggs of this curious bird we are indebted to the zeal of Mr. H. G. Parker of Carson City, Nev., who during the past spring has visited a breeding colony on the same range of low piñon-covered hills where nine years ago Mr. Ridgway obtained his facts respecting their nests. This is a locality perfectly typical of the tastes of the bird, and here they have maintained their hold for an indefinite term of years, and reared many successive generations of young. Mr. Parker visited the locality during the latter part of March, and found the pairs then leisurely at work making their nests. On the 5th of April he found the females sitting, and took two nests, one with three, the other with four eggs. One of the nests with its complement, presented by Mr. Parker to the Smithsonian Institution, is now before me, and offers the following description : To begin with, it is a really handsome structure, and indicates a higher order of constructive ability than is usual in the Jay family. It is strongly made, and though somewhat bulky and Jay-like externally, is more compact and deeper, with higher sides than is ordinarily seen. As a matter of course, the piñon-tree being almost the only living thing found on these dry and desolate hills, the nest is made up largely of twigs from this tree, which were evidently, as shown by the fresh ends, broken off by the birds, not gathered from the ground. These are interlocked firmly, so as to afford an admirable supporting base for the nest proper. Here again the birds have had recourse to the piñon, and have utilized long strips of the tough, fibrous, but soft bark which make up the bulk of the lining. Fine shreadings of the same and a few straws nicely arranged complete the interior. The external diameter of the nest is nine and one half inches ; internal, four ; depth, three. The eggs are of a greenish-white color, profusely spotted everywhere with small blotches of light brown and purple. In one specimen the brown shows a faint reddish tinge. Towards the larger ends the markings become more numerous, and near the apex show a decided tendency, so usual in spotted eggs, to form a confluent ring. They measure  $1.27 \times .87$ ,  $1.27 \times .88$ ,  $1.27 \times .87$ ,  $1.23 \times .87$ . They thus appear to correspond very closely with Mr. Aiken's set, and show only slight variations in size. They

hardly need comparison with the eggs of any other of the Jays, having a much purer white ground-color and a very different style of spotting.

The nest above described was found on the horizontal branch of a nut-pine, toward the top, but only nine or ten feet from the ground. Both our other observers' accounts indicate a similar position for the nests, and it is probable that very little variation in this respect is to be looked for.

Later Mr. Parker writes that he has since found a second colony in another portion of the same range of hills, where "thousands" breed. Unfortunately he was too late for the eggs.

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### DESCRIPTIONS OF THE FIRST PLUMAGE IN VARIOUS SPECIES OF NORTH AMERICAN BIRDS.

BY WILLIAM BREWSTER.

#### III.\*

##### 48. *Vireo olivaceus.*

*First plumage*: male. Remiges, rectrices, and greater wing-coverts as in adult; rest of upper surface, including the lesser wing-coverts and rump, light cinnamon, tinged with ashy, and upon the interscapular region washed faintly with dull green; cheeks pale buff. Supra-orbital line and entire under parts silky white, with a delicate wash of pale brown on the sides. From a specimen in my collection taken at Upton, Me., July 30, 1874.

##### 49. *Vireo gilvus.*

*Autumnal plumage*: young female. Crown precisely as in spring adult; interscapular region much more strongly tinged with olive-green. Primaries and secondaries tipped with ashy-white. Anal and abdominal regions silky-white. Rest of under parts creamy-buff, lightest on throat and crissum, most pronounced on the pectoral region, and intensifying into rich, though dull, brownish-yellow on the sides. From a specimen in my collection, shot at Concord, Mass., September 12, 1877.

##### 50. *Vireo flavifrons.*

*First plumage*: male. Remiges and rectrices similar to those of the adults, but with the primaries and secondaries tipped and edged broadly

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For Parts I and II, see this volume, pp. 15 - 23, 56 - 64.

with white. Rest of upper parts uniformly blue-gray, tinged with cinnamon. Throat, cheeks, and pectoral region anteriorly, very pale yellow. Rest of under parts silky-white. From a specimen in my collection obtained at Cambridge, Mass., June 30, 1871.

### 51. *Vireo solitarius.*

*First plumage*: female. Upper parts dark ashy, becoming lighter on the rump, and washed strongly with olive-green on the interscapular region. Abdominal region and throat soiled white, the latter with a faint ashy tinge. Sides and crissum pale greenish-yellow. A V-shaped patch of fawn-color on the lower pectoral region. From a specimen in my collection shot at Upton, Me., August 23, 1873.

This bird is in transitional dress, being slightly past the first plumage.

### 52. *Vireo noveboracensis.*

*First plumage*: female. Entire upper parts brownish-olive; wing-bands pale fulvous. Throat, cheeks, and breast fulvous-ash. Central portions of abdominal and anal regions soiled white. Sides and crissum pale yellow, tinged with buff. Otherwise similar to the adult. From a specimen in my collection obtained at Cambridge, Mass., July 20, 1871.

### 53. *Pinicola enucleator.*

*First plumage*: male. Forehead, crown, cheeks, and throat dull yellowish-brown, lightest on the throat, with a few blood-red feathers intermixed on the forehead and cheeks. A dusky line through the lores. Occiput and interscapular region purplish olive-brown; nape a lighter shade of the same color; tail-coverts and rump dull yellowish-red; wing-bands and edging of secondaries light wood-brown; entire under parts reddish-brown, lightest on abdomen, most pronounced on breast and sides. From a specimen in my collection shot at Upton, Me., August 27, 1874.

Young birds in the second or autumnal plumage exhibit almost endless variations of coloring. The males may be distinguished in most cases by the coppery-red on the crown and rump; but some females have the ordinary brownish-yellow on those parts, strongly tinged with red. One young male in my collection exhibits a broad pectoral band of light rose-color mixed with reddish-yellow.

### 54. *Carpodacus purpureus.*

*First plumage*: female. Above dark brown, shading to lighter on the rump, each feather edged with light reddish-brown. The forehead and supra-loral line streaked with grayish. Under parts dull white, thickly streaked everywhere, except on crissum and anal region, with very dark brown. From a specimen in my collection taken at Cambridge, July 9, 1873. Although this bird is in strictly first plumage, it differs scarcely appreciably in coloring from autumnal specimens.

55. *Loxia leucoptera*.

A male and female of this species, received from Mr. J. G. Rich, and shot by him at Upton, Me., some time in April, differ widely in coloring from any specimens which I have previously examined. The male is very brilliant carmine, nowhere streaked or obscured except on the sides, abdomen, and forehead. The wings, tail, and scapulars are very clear glossy-black; the white wing-bands unusually broad and clearly defined. The female is similarly marked, with pale orange replacing the carmine of the male. The rump and breast exhibit large areas of the purest orange, which, however, is scarcely less pronounced on the back and crown, although there somewhat obscured by a dusky pencilling. Whether these specimens represent some regular seasonal phase of plumage, or are simply aberrant types, I am unable to decide. Both are apparently adult birds.

56. *Loxia curvirostra americana*.

*First plumage*: female. Upper surface generally brown, each feather edged and tipped with dull gray. Interscapular region washed with greenish-olive; rump yellowish-white, with a greenish tinge; a few only of the feathers with darker centres. Beneath dull ash, lighter on the abdomen, washed with greenish across the breast, each feather with a central streak of dark brown. From a specimen in my collection obtained at Upton, Me., June 25, 1873. In general aspect this specimen is much darker than the adult female. It was moulting, and had acquired a few feathers of the autumnal plumage.

57. *Chrysomitris pinus*.

*First plumage*: female. Strong mustard-yellow, tinged on the upper parts with brownish-olive, every feather, excepting those on the abdomen, streaked with dark brown. Wing-bands and outer edging of secondaries fulvous. From a specimen in my collection, shot at Upton, Me., August 18, 1873. The first plumage of this species is certainly most remarkable. The yellow is by no means a mere wash or tinge of color, but pure, strong, and uniformly distributed. In a series of five or six specimens collected at about the same time, several exhibit a brownish cast, especially on the upper parts, while scarcely any two agree as to the relative amount and color of the dusky streaks. In one example they are very broad and almost black, in another, tear-shaped and of a dull brown.

58. *Chrysomitris tristis*.

*First plumage*: male. Crown, interscapular region, and rump light reddish-brown, tinged with olive. Wing-bands and a broad edging upon the secondaries intense fawn-color. Forehead and entire under parts fulvous-yellow, most prominent on the sides. From a specimen in my collection, shot at Upton, Me., August 29, 1873.

59. *Plectrophanes ornatus*.

*First plumage*: female. Above light reddish-brown, every feather streaked centrally with very dark brown, most heavily so upon the crown. Greater and middle wing-coverts pale ashy, tinged with reddish. Lores and superciliary stripes dull gray, the latter minutely dotted with brown. Under parts pale fulvous, streaked somewhat finely with brown upon the breast and jugulum, with a maxillary series of spots of the same color. From a specimen in my cabinet, collected by Dr. Coues, September 3, 1873, at Souris River, Dakota.

60. *Passerulus savanna*.

*First plumage*: male. Above light brownish cream-color, streaked thickly and finely on the top of the head and nape, more broadly on the back, with dark brown. Beneath dull white, strongly tinged anteriorly with brownish-yellow, finely streaked everywhere excepting upon the abdominal and anal regions with dull black. Wings paler than in adult, with the greater and middle coverts tipped with fulvous. From a specimen in my collection, shot at Upton, Maine, August 11, 1873.

61. *Coturniculus henslowi*.

*First plumage*. Top of head, neck, upper parts of back and rump, olive-brown; crown with a broad black-spotted stripe on each side. Feathers of interscapular region with heavy central spots of dull black. Beneath pure delicate straw-color, lightest on the abdomen, deepest, with a strong buffy tinge, on the throat, breast, and sides; *no spots or markings of any kind on the under parts*. Outer edging of primaries and secondaries dull cinnamon; wing-coverts buff. Lores and spot upon the auriculars dusky. Bill colored like that of the adult. From two specimens in my cabinet, collected at Concord, Mass., June 19, 1878. With the single exception of *Chrysomitris tristis*, this is the only species of the *Fringillidae*, so far as I am aware, in which the young in first plumage are entirely immaculate beneath.

*Autumnal plumage*: young female. Bill black. Crown, cheeks, and superciliary line, anteriorly, reddish-buff. A narrow maxillary and inframaxillary stripe and a small spot behind the auriculars, black. Top of head with two broad stripes of dark brown upon the sides. Post-orbital space, neck, nape, and back anteriorly dull olive-green, the nape dotted finely with dusky. Tertiaries, upper tail-coverts, and feathers of interscapular region with broad, rounded, central spots of black, shading round their edges into dark chestnut, and tipped narrowly with ashy-white. Outer surface of wing similar to the adults, but paler. Under parts pale reddish-buff, fading into soiled white upon the abdomen. A broad *continuous* band of black spots across the breast, extending down the sides to the crissum. Throat flecked faintly but thickly with dusky. Chin, jugulum, and central abdominal and anal regions unspotted. From a specimen in

my cabinet, collected at Osterville, Mass., November 6, 1874. In the absence of sufficient material for comparison, I am unable to say whether this specimen represents the typical autumnal plumage or not. The black bill is, to say the least, a remarkable feature, and one not found in either the adult or young in first plumage.

**62. *Coturniculus passerinus.***

*First plumage:* male. Upper surface, including sides of neck, dark brown, each feather edged and tipped with pale fulvous,—no chestnut marking. Sides of head ochraceous, spotted finely with dusky. Superciliary line pale buff. Greater and middle wing-coverts dull white. Beneath dull white (in some specimens with a decided yellowish cast). Sides with a few dusky streaks. A broad continuous band of ovate black spots across the breast and jugulum, running upward in a narrowing line to the base of the lower mandible. Several specimens in my cabinet, collected at Nantucket, Mass., in July, 1874. This species in the first plumage may be at once separated from *C. henslovi* in the corresponding stage by the conspicuous band of spots upon the breast, and by the darker and more uniform coloring of the upper parts.

**63. *Ammodromus maritimus.***

*First plumage.* Above light olive-brown, with dusky streakings, broadest upon the interscapular region, narrower and more uniformly distributed upon the occiput and nape. A broad superciliary stripe of fulvous extending backward to the occiput, finely spotted with dusky upon its posterior half. Sides of head dull olive, with irregular patches of fulvous. Wing-bands of pale fulvous upon the greater and middle coverts. Beneath pale brownish-yellow, fading to soiled white posteriorly. Sides, and a broad continuous band across the breast, spotted with dull brown. From a specimen in my collection, taken at Bath, Long Island, September, 1872.

**64. *Ammodromus caudacutus.***

*First plumage:* male. General coloring, both above and beneath, bright reddish-brown, nearly as in the superciliary stripe of the adult. Feathers of interscapular region streaked centrally with dark brown; nape brownish-olive, unspotted. Two broad stripes of dark brown on the sides of crown. Wings and tail scarcely more reddish than in adult. Sides of head with fewer dark markings. Sides of breast somewhat thickly streaked with dusky; otherwise unmarked. From a specimen in my collection, taken at Rye Beach, N. H., August 20, 1869. It is not a little remarkable that in a family whose young are nearly without exception more thickly streaked or spotted than their parents,—and often, indeed, conspicuously marked in this manner, when the parent is entirely plain,—this bird in first plumage should exhibit less streaking beneath than the adult, which has not only a *continuous* band of dusky markings across the breast,

but also the sides thickly marked in a similar manner. In view of this fact, the further development of the young is most interesting. When the autumnal plumage is acquired, the dusky streakings upon the sides of the breast are entirely lost, and do not again appear until after the spring moult, when, as previously stated, they are distributed over much larger areas. A nearly analogous case of development is afforded by the Arctic and Wilson's Terns, whose young have the bill and feet at first pale red or yellow, afterwards dusky or nearly black, and again, when fully adult, deeper and clearer red than when first from the nest.

#### 65. *Melospiza palustris.*

*First plumage*: female. Crown blackish, each feather obscurely tipped with lighter. Rest of upper parts reddish-brown, every feather streaked centrally with dull black. Beneath dull ferruginous-brown, fading to soiled white on the abdomen, streaked thickly but narrowly with dull black everywhere excepting on the abdomen. Sides of head dusky, with irregular patches of dark brown. No appreciable ashy anywhere. From a specimen in my collection taken at Cambridge, Mass., June 24, 1872. Specimens in first plumage show considerable variation in the amount of streaking beneath. Some are so faintly marked that at a little distance they appear entirely plain. They may be at once distinguished from examples of *M. melodia* in corresponding plumage by the much darker cast of the upper surface (especially of the crown) and by the finer character of the markings beneath.

#### 66. *Melospiza melodia.*

*First plumage*: male. Above similar to the adult, but with the crown less rufous, and the markings of the feathers upon the interscapular region decidedly darker. The sides of the head are also more buffy and the markings fainter. Beneath light yellowish-brown, streaked and spotted everywhere, excepting upon the throat and abdomen, with dusky brown, of a much lighter and duller cast than in the adult. From a specimen in my collection shot at Cambridge, Mass., June 24, 1872.

#### 67. *Junco hyemalis.*

*First plumage*: male. Upper parts dark brown, everywhere suffused with ashy, but most appreciably so upon the top and sides of head; every feather marked obscurely with dull black. Greater and middle coverts tipped with reddish-brown, producing two rather indistinct wing-bands. Throat, and breast anteriorly, ferruginous-ashy, nearly obscured by streakings of dull black. Rest of under parts dull ashy-white, with a faint buffy tinge, spotted everywhere excepting on the abdomen with dusky. Crissum pale fulvous. From a specimen in my cabinet collected at Upton, Me., August 25, 1874. Considerable variation is exhibited by the series of specimens in first plumage before me. Some have the upper

parts dull reddish-brown, with the streakings but faintly indicated, and scarcely any appreciable ashy either above or beneath. The first plumage is worn by the young of this species for an unusually long time.

**68. *Spizella socialis.***

*First plumage*: male. Above light reddish-brown, lighter and with an ashy tinge on the nape and rump, every feather streaked centrally with dark brown. Superciliary line and a poorly defined median stripe upon the crown pale fulvous. Beneath ashy-white, spotted and streaked everywhere, excepting on throat, anal region, and crissum, with dull black. From a specimen in my collection shot at Cambridge, Mass., July 9, 1873.

**69. *Spizella pusilla.***

*First plumage*: male. Above olivaceous-ashy, the feathers of the interscapular region with central streaks of dark brownish-chestnut. Crown, occiput, and nape unmarked. Entire under parts, including sides of head, light brownish-ashy, paler posteriorly. A broad band across the breast of fine, faint, but distinct spots of reddish-brown. From a specimen in my collection taken at Belmont, Mass., July 30, 1875. Young of this species in first plumage are readily separable from those of *S. socialis* by the plain crown and finer spottings of the under parts.

**70. *Zonotrichia albicollis.***

*First plumage*: male. Above bright reddish-brown, darkest upon the crown, the feathers of the interscapular region with obscurely defined dark brown centra. Superciliary stripe, and a poorly defined median stripe upon the crown, brownish-white; no decided yellow anterior to the eye. Beneath brownish-white, with dusky streakings everywhere excepting upon the abdomen. From a specimen in my collection taken at Upton, Me., July 30, 1874.

**71. *Zonotrichia leucophrys.***

*First plumage*. Throat, breast, sides, and interscapular region streaked thickly with dull black, most broadly so on the back; on the throat these streaks are reduced to mere spots; lateral stripes of crown dark brown; central stripe dirty white. Anal and abdominal region immaculate. Crissum faintly spotted. Otherwise like adult. From specimen in the collection of J. Murdoch, obtained by him at Labrador, July, 1876.

**72. *Chondestes grammica.***

*First plumage*. Crown dark brown, faintly tinged with chestnut. A median and two lateral stripes of pale brownish-yellow. Rest of upper parts similar to the adult, but with the rump obscurely spotted, and the streaking on the feathers of the interscapular region much broader. Lores

dull black. Beneath soiled white, thickly streaked everywhere, excepting upon the abdomen, with dull black. From a specimen in my collection obtained at Columbus, Ohio, by Dr. J. M. Wheaton.

**73. *Euspiza americana.***

*First plumage.* Above pale fulvous, with broad markings of dark brown upon the feathers of the interscapular region, and narrower fainter ones of lighter brown upon the crown. Bend of wing, middle and greater coverts, fulvous. Under parts delicate fawn-color, deepest upon the breast. No markings beneath, excepting a faintly indicated line of dusky spots upon the sides of the breast. From a specimen in my cabinet collected at Columbus, Ohio, by Dr. J. M. Wheaton. This bird is very young, scarcely large enough to fly.

**74. *Cyanospiza cyanea.***

*First plumage:* female. Above dark reddish-brown, slightly tinged with olive, a few of the feathers upon the interscapular region with very obscure dusky central markings. Beneath pale reddish-brown, deepest upon the abdominal and anal regions; streaked distinctly on the sides and across the breast with dusky brown. From a specimen in my cabinet collected at Cambridge, Mass., July 15, 1872.

**75. *Pyrrhuloxia sinuata.***

*First plumage:* male. Above light ashy-brown, palest on crown and nape. Two rather indistinct wing-bands of fulvous ashy. Crest similar to that of adult, but of a lighter red; bill much darker than in adult. Breast and sides brownish-ash with a few scattered feathers of faint crimson on the median line of the breast and abdomen. From a specimen in my collection obtained by Dr. H. B. Butcher on the Rio Grande in Texas, August 29, 1866. This specimen was moulting, and had already acquired many feathers of the fall dress. The red feathers of the crest and under parts would probably be wanting in very young birds.

**76. *Pipilo erythrophthalmus.***

*First plumage:* male. Above dull reddish-olive, the feathers of the interscapular region with dusky brown centres. Greater wing-coverts and outer edges of two inner tertaries, deep fulvous. Beneath pale reddish-brown, deepest upon sides and crissum, shading into brownish-white upon the abdomen, thickly spotted and streaked everywhere (excepting on a small space upon the abdomen) with dull black. From a specimen in my collection shot in Cambridge, Mass., June 21, 1874. In a large series of young in first plumage much individual variation occurs. Some specimens are thickly and finely streaked beneath with dull *chestnut* in place of black, while the upper parts are dull rufous; others, taken during the progress of the first moult, exhibit nearly every conceivable variation of marking in reddish-brown, chestnut, white, and black.

77. *Molothrus ater.*

*First plumage*: female. Above olivaceous-brown, the primaries, secondaries, greater and middle coverts, and every feather upon the nape and interscapular region, edged with light sugar-brown. Superciliary line and entire under parts delicate brownish-yellow. The throat and lower area of abdomen immaculate; everywhere else thickly streaked with purplish-drab. From a specimen in my cabinet taken at Cambridge, Mass., August 4, 1875. A male in first plumage differs in being much darker and more thickly streaked beneath. Specimens in process of change into the autumnal plumage are curiously patched and marked with the light brown of the first plumage and the darker feathers of the fall dress. *All the remiges and rectrices* are moulted with the rest of the first plumage during the first moult.

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REMARKS ON SOME OF THE BIRDS OF LEWIS COUNTY,  
NORTHERN NEW YORK.

BY C. HART MERRIAM.

(Continued from p. 56.)

*Melanerpes erythrocephalus*. RED-HEADED WOODPECKER.—This handsome bird, the most beautiful, to my eye, of all our Woodpeckers, may be regarded as a common resident in Lewis County; for since my earliest recollection—and the bird has always been a favorite with me—it has been plentiful throughout the entire year, excepting only during those winters which followed unusually small yields of beechnuts.

Like the Yellow-bellied and Golden-winged Woodpeckers, and to a certain extent the Red-bellied also, it is generally considered a truly migratory species wherever it occurs at all (in the Eastern Province) north of the Southern States. In 1862 Dr. Coues gave it as a "summer resident" in the District of Columbia, stating that it "arrives in spring usually the last week in April; leaves about the middle of September."\* Turnbull says (1868) that in East Pennsylvania and New Jersey it is "plentiful, arriving in the latter part of April, and departing in September or beginning of October."† Again, in 1868, Coues gives it as a "rare summer visitant"‡ to New England, and De Kay tells us (1843) that it "arrives in

\* List of Birds ascertained to inhabit the District of Columbia. By Elliott Coues and D. Webster Prentiss. From Smithsonian Report for 1861, 1862, p. 403.

† Birds of East Pennsylvania and New Jersey. By William P. Turnbull, LL. D. Glasgow (Cuts), p. 15, 1869.

‡ Proceed. Essex Inst., Vol. V, p. 263, 1868.

this State from the South in the early part of May, and, after breeding, leaves us again in September ; occasionally a few remain during the winter." \* Hence it is not to be wondered at that when, during the winter of 1871 - 72, I mentioned to one of our leading ornithologists the fact of their wintering with us in Northern New York, my statement was received with surprise and, as I thought, no little incredulity. I therefore wrote to my friend, Mr. C. L. Bagg, asking him to send me a lot of Red-headed Woodpeckers as soon as possible, and in a week's time received a box containing over twenty specimens, — all killed in Lewis County and when the snow was three feet deep ! This was proof positive. Notes kept by Mr. Bagg and myself during the past six years show that they were abundant here during the winters of 1871 - 72, 1873 - 74, 1875 - 76, and 1877 - 78 ; while they were rare or did not occur at all during the winters of 1872 - 73 and 1876 - 77. Their absence was in no way governed by the severity of the winters, but entirely dependent upon the absence of the usual supply of beechnuts. While the greater portion of nuts fall to the ground and are buried beneath the snow far beyond the reach of the Woodpeckers, yet enough remain on the trees all winter to furnish abundant subsistence for those species which feed on them.

I have previously called attention to the fact that in this locality "they subsist almost exclusively on beechnuts, of which evidently they are extremely fond, eating them, apparently with equal relish, whether green or fully matured. It is truly a beautiful sight to watch these magnificent birds, together with their equally abundant cousins, the Yellow-bellied Woodpeckers (*Sphyrapicus varius*), creeping about, after the manner of the Warblers, among the small branches and twigs, which bend low with their weight while picking and husking the tender nuts, — the bright crimson of the head, neck, and breast, the glossy blue-black back and creamy-white belly, together with the scarcely less striking colors of their yellow-bellied companions, contrast handsomely with the deep green foliage," \* — a scene suggestive of the oft-dreamed-of avian paradise amidst the rich verdure of the tropics rather than the cold forests bordering the Canadian Fauna. Then, as they spread their beautiful wings and in graceful undulatory flight pass from wood to wood, their bright plumage glistening in the sun, and, alighting on the farther side of some convenient tree, peep cautiously about to see if intruders are near, one is so wrapped in admiration that he wishes the days of sorcery and magic had not yet gone, that he might be transformed into one of these splendid birds.

They are suspicious creatures, and if danger threatens, utter a hoarse rattling cry, not at all in harmony with their pretty exterior, and are off in an instant. If slowly and stealthily approached, they sometimes hesi-

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\* Ornithology of New York, p. 185, 1844.

† Birds of Connecticut, p. 66, 1877.

tate before taking flight, and run up the trunks muttering to themselves in a grumbling, dissatisfied sort of a way, but taking good care to keep the tree well between them and the intruder, at whom, meanwhile, they take an occasional peep, exposing little more than the bill and one eye, however, so that it is no easy matter to shoot them.

During the autumn the scattered pairs for several miles around usually congregate in some suitable wood, containing a plenty of beech-trees, and here spend the long cold winter in company, chattering and chasing one another about among the trees to keep warm, and to help while away the time. "Coe's woods," in this immediate vicinity, has long been famous as the great winter resort for the Red-headed Woodpeckers of the neighborhood, and it is certainly the most suitable place for their purposes to be found for many miles around. This piece of woods, not over an eighth of a mile in extent, contains, besides hundreds of beeches (*Fagus ferruginea*), a large number of elms (*Ulmus americana*), and white ash-trees (*Fraxinus americana*) of great size, most of the tops of which are now dead. What more favorable location than this woods could a Woodpecker desire? Here they have beechnuts in abundance and a bountiful supply of dead limbs and tree-tops far above the reach of the small charges commonly used by bird-collectors.

The Red-headed Woodpeckers have a very provoking way of keeping on the upper side of a very high limb, so that, from below, one can get little more than an occasional glimpse of the bird's head, and an expectant gazing upward at this is very apt to prove unsatisfactory and to result in a stiff neck. At such times, as if in defiance, their harsh rattling note is constantly repeated, and they are rarely quiet unless taken by surprise at close quarters, when they generally slide quickly to the opposite side of the tree, and after running up a short distance, take flight. Still they are by no means so noisy as the Yellow-bellied fellows, who, not content with stretching to the utmost their vocal powers, take especial delight in drumming on hard resonant trees, eave-troughs, and tin roofs.

Though not particularly quarrelsome in disposition, they evidently enjoy an occasional row, both among themselves and with other inhabitants of the forest. But a short time since (May 14), while passing through Coe's woods, I heard a great commotion among the Woodpeckers, and found a couple of *Melanerpes* worrying a pair of Downy Woodpeckers (*Picus pubescens*), who had made their nest in a hole in the dead beech, which was the seat of the difficulty. They chased and dove at one another for some time, the Red-heads being the aggressive party, and made considerable bluster and noise, but, so far as actual fighting was concerned, neither party seemed to make much headway; and I put an end to the affray by shooting the *Melanerpes*, who were so excited that they did not notice me at all. At another time, in midwinter (January, 1876), my attention was called, by the noise they made, to a pair of Red-headed Woodpeckers who were diving at something on one of the highest limbs of

a large elm. A near approach showed the object of their malice to be a handsome black squirrel (*Sciurus carolinensis* var. *leucotis*, Allen), who had been unfortunate enough to excite their ire by climbing a tree in broad daylight. The squirrel at first evaded their attacks from above by clinging to the under surface of the limb, and dodged their lateral shots by a quick side shift, but this was temporary. The Woodpeckers, realizing that they were not tormenting the squirrel to a satisfactory extent, alighted for a brief council, during which the squirrel took occasion to commence a hasty retreat. But the birds were at him again in an instant, this time changing their tactics, and both dove together, the one following closely behind the other, so that as the squirrel dodged the first he was sure to be struck by the second. The blows from their hard bills were so severe and so painful that the poor squirrel had not been struck half a dozen times when he let go his hold and fell to the ground, but was off and up another tree before I could reach the spot. I witnessed a similar attack upon a gray squirrel (color-variety of same species) last August, but this time the squirrel succeeded in getting into a hollow limb. The time of year at which the above instances occurred precludes the possibility that the cause of the difficulty arose from an intrusion on the nesting-grounds of the Woodpeckers, for the first took place in midwinter, and the second after the young were fully fledged and had left the nest. Neither is it at all likely that the trouble was due to an old grudge which might have arisen from a habit, on the part of the squirrel, of robbing the Woodpeckers of their eggs, for the size of the animal is such as to prevent his ready entrance into the Woodpecker's hole, and should he even succeed in getting in he would doubtless pay the penalty with his eyes if not his life. Hence it seems fair to conclude that the disposition of the bird is not altogether in keeping with its pretty plumage, but that it sometimes plays the part of tyrant over those who, from lack of wings or inferiority of size, are unable to offer adequate resistance.

During the summer months, when beechnuts are striving to become young trees, and insects are particularly abundant, they feed largely on the latter; and in autumn, in some parts of the country, destroy large quantities of fruit, "ripe cherries and pears seeming to be a favorite repast." \*

Like other Woodpeckers they procure larvae by puncturing dead limbs, and mature insects by searching crevices in the bark, but, unlike other members of the family, they also capture their prey in mid-air, after the manner of the true Flycatchers. Thus occupied, I have several times seen them from fence-posts, and twice from the dead top of "the old gum-tree" (a large spruce), make frequent sallies into the air after passing insects, which were almost invariably secured, so accurate was their aim. Attention has already been called to their fly-catching proclivities by Mr.

\* J. P. Giraud, Jr. Birds of Long Island, p. 180, 1844.

Samuel Calvin \* and others.† In Humboldt County, Iowa, they must be badly demoralized, for Mr. Charles Aldrich states that there they sometimes amuse themselves by braining young poultry. He says: "On watching carefully to ascertain the cause, a Red-headed Woodpecker (*Melanerpes erythrocephalus*) was caught in the act. He killed the tender duckling with a single blow on the head, and then pecked out and ate the brains!"‡

In the last number of the Bulletin Mr. H. B. Bailey published a letter, relative to the food of this species, from Mr. G. S. Agersborg, of Vermilion, Dakota Ter., which is of such unusual interest that I take the liberty of reproducing part of it here: "Last spring, in opening a good many birds of this species with the object of ascertaining their principal food, I found in their stomachs nothing but young grasshoppers. One of them, which had its headquarters near my house, was observed making frequent visits to an old oak post, and on examining it I found a large crack where the Wood-pecker had inserted about one hundred grasshoppers of all sizes (for future use, as later observations proved), which were put in without killing them, but they were so firmly wedged in the crack that they in vain tried to get free. I told this to a couple of farmers, and found that they had also seen the same thing, and showed me the posts which were used for the same purpose."§

Gentry says that in Union and Northumberland counties, in Pennsylvania, "no later than the 10th of August," he has "seen immense flocks, numbering hundreds, in orchards, gleaning among the trunks and branches of apple-trees, for the insects which lurk in their creviced bark. So tame and confiding were they that it was possible to approach within a few paces of them without exciting suspicion or creating alarm."|| Not being a migratory species with us, in Northern New York (unless forced to leave by scarcity of food), they are never met with in large flocks, and their wariness depends, of course, upon the amount of persecution to which they are subjected. Well do I remember a winter, about twelve years ago, when in Coe's woods Mr. Bagg and I used to hunt them on snow-shoes with bow and arrow. Then they would often alight close to us, and occasionally paid dearly for their audacity.

During the summer and early autumn they are generally more easily approached than when in winter-quarters.

Yesterday (May 29), while passing a dead stub, I noticed a Red-headed

\* American Naturalist, Vol. XI, No. 8, p. 471, August, 1878.

† Harper's Magazine, and Forest and Stream, Vol. IX, No. 24, p. 451, Jan. 17, 1878.

‡ American Naturalist, Vol. XI, No. 5, p. 308, May, 1877.

§ Bull. Nutt. Ornith. Club, Vol. III, No. 2, p. 97, April, 1878.

|| Thos. G. Gentry. Life Histories of the Birds of Eastern Pennsylvania, Vol. II, p. 148, 1877.

Woodpecker fly from a hole in its side about twenty feet from the ground. On shaking the stub I could distinctly hear young birds within, which greatly surprised me, for many of them are not yet breeding, as shown by the size of their ovaries. The parent bird immediately returned, flying about overhead, and sometimes alighted on the stub, uttering, every now and then, her characteristic ker-r-r-ruck, ker-ruck-ruck-ruck.

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### EVIDENCES OF THE CAROLINIAN FAUNA IN THE LOWER HUDSON VALLEY. PRINCIPALLY FROM OBSERVATIONS TAKEN AT RIVERDALE, N. Y.

BY EUGENE P. BICKNELL.

THE restrictionary causes circumscribing geographical divisions of animal and vegetable life, though as yet but imperfectly understood, are well known to bear little relation to absolute latitudinal parallels, but to be largely independent of these equidistant surface divisions, and likewise to a certain extent unconformable with isothermal lines. The boundaries of faunal areas are usually of an extremely irregular nature, and in their territorial relations contiguous faunæ often present a series of mutual inter penetrations, the apparent invasion by one province of an adjoining district of course being coincident with an opposite extension or penetration of the invaded territory.

Thus from near the northeastern boundary of the Carolinian Fauna two main branches emanate, — one striking up into the valley of the Hudson; the other extending along the Connecticut coast and into the Connecticut valley, through which reaching the Massachusetts border.\* The relations between these two tributaries at their junction with the main body of the fauna to which they belong, or their consolidation before reaching that point, is at present but very superficially understood; but from what knowledge we have in the matter it would appear that their interception occurred somewhere near the mouth of the Hudson, thus including New York City and vicinity in the angle formed by their divergence.

The northern limit of the Hudson River branch is as yet unde-

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\* A Review of the Birds of Connecticut. By C. Hart Merriam, p. 1, 1877.

terminated; but at Riverdale, where, unless otherwise stated, the following observations were taken, the Carolinian Fauna is well represented by the regular occurrence of such characteristic species as *Helminthophaga pinus*, *Icteria virens*, *Myiobius mitratus*, *Stelgidopteryx serripennis*, and *Empidonax acadicus*, and the occasional occurrence of other equally characteristic Carolinian forms, notices of which follow.

**Mimus polyglottis.** MOCKING-BIRD. An individual of this species was seen on October 28, 1877, and on November 21, of the same year, a specimen was shot from a fence by the roadside, by a friend, and kindly presented to me. The bird had been observed near the same place on the previous day feeding on the berries of a cedar (*Juniperus virginiana*). It proved to be a female, and was in good condition, the stomach containing cedar berries, and also those of the common poke or pigeon berry (*Phytolacca*). I am aware of two specimens having been seen in the Central Park within the last few years, probably wild birds; and two have recently been killed on Long Island by Newbold T. Lawrence.\*

**Lophophanes bicolor.** TUFTED TITMOUSE. On November 29, 1874, one of these birds appeared in a certain piece of open woodland in the vicinity, and for several weeks thereafter was occasionally noticed about the same spot, and without doubt remained during the winter, as I am almost certain of having heard it in January, and the following March it was often seen or heard about the same woods, being then in full song. It disappeared after March 28. Mr. Geo. N. Lawrence informs me that some years ago, late in the fall, he noticed a number of these birds near Williams Bridge, but a few miles from Riverdale.

**Thryothorus ludovicianus.** CAROLINA WREN. A specimen was taken in the late fall several years ago by Mr. W. E. Babcock, on a partially wooded slope extending toward the river shore. Two instances of its occurrence on Manhattan Island are recorded by Mr. Lawrence,† and De Kay (p. 55) speaks of having had specimens from Westchester and Rockland Counties, taken as late as the middle of December.

**Helminthorus vermicivorus.** WORM-EATING WARBLER. This species is not uncommon during the summer, usually arriving the second week in May (May 2, this year); and, in 1876, I knew of at least five pairs that reared their broods in the immediate vicinity. In the previous year I secured a nest with complement of five eggs, partially incubated on June 13, and have found young birds able to fly on the 27th of the same month. In very young birds, scarcely able to fly, the olive of the adult is only apparent on the remiges, the remainder of the plumage being of a

\* Forest and Stream, Vol. X, No. 13, p. 235, May 2, 1878.

† A Catalogue of the Birds observed in the Vicinity of New York. By Geo. N. Lawrence. 1866, p. 283.

general brownish and deep buffy suffusion, very similar to the color of dead leaves, especially on the breast, and rendering their detection when among the leaves of their favorite haunts very difficult. Does not this adaptation of color to environment in the case of these helpless young appear to be an instance of protective mimicry?

**Helminthophaga pinus.** **BLUE-WINGED YELLOW WARBLER.** Common during the summer, and regularly breeding. Arrives after the first week in May (May 2, in 1878), and incubation commences by the last of the month.

**Helminthophaga chrysoptera.** **GOLDEN-WINGED WARBLER.** — Though this species must be of somewhat regular occurrence, I have but one record from the immediate vicinity, a male seen on May 11, 1875.

**Oporornis formosus.** **KENTUCKY WARBLER.** — Have taken but one specimen in the vicinity, an adult male on May 30, 1875. Mr. J. Wallace informs me that this species occurs during the breeding-season, at Fort Lee, N. J., and that some years since a nest and five eggs with the female bird was taken at that locality. Has been found breeding at Sing Sing, by Mr. A. K. Fisher, N. Y.\*

**Myiobius mitratus.** **HOODED WARBLER.** — Within the confines of a tract of somewhat elevated though diversified woodland, this species may be seen or heard every day in the early summer after the middle of May, though only on rare occasions has it been noted at other places in the vicinity. In these woods the ground reaches an elevation of (approximately) two hundred and fifty feet, very nearly as high as any land in the vicinity, and here these birds may be found breeding indifferently on the open or wooded summits, or at their base near the low swampy growth bordering the woods. Owing to the encroachment of the Cow Buntings, but a single bird was reared between two nests which I discovered in 1875. I have females in my collection representing well the state of plumage recently spoken of by Mr. Merriam,† and by Mr. E. A. Mearns,‡ of Highland Falls. In one of these birds the black, though well defined in the region of the occiput, is scarcely detectible on the throat; while another, though less definitely marked, represents an almost opposite phase. This bird also breeds abundantly at Fort Lee, N. J., in company with *H. versicolor* and *H. pinus*, and all three also occur at West Farms, N. Y. §

**Stelgidopteryx serripennis.** **ROUGH-WINGED SWALLOW.** — This species is a regular summer visitor, arriving about the last week in April, and though not uncommon in the spring, but few remain to breed. By the first week in August, however, the species again appears, apparently

\* Am. Nat., Vol. IX, p. 573.

† Review of the Birds of Conn., pp. 25, 26.

‡ This Bulletin, Vol. III, pp. 71, 72.

§ W. G. Stevens. Forest and Stream, Vol. VI, p. 215.

on its southern migration, and becomes much more abundant than in the spring. On August 5, last, I noticed numbers of these birds in flocks of from ten to thirty individuals lining the fences along the roadside and outnumbering any of the other species with which they were associating. After September 9 none were observed. The greater abundance of this species in spring and late summer than in the intermediate season would seem to indicate a more northern range, and this, taken in connection with the proximity to the Connecticut State line, and the fact that the course of migration at this point tends towards the northeast, would appear to render their regular occurrence there almost assured.

***Cardinalis virginianus.*** CARDINAL REDBIRD.—A male specimen was taken on Manhattan Island in February, 1867, by Mr. George Bird Grinnell, it having alighted near his house during a snow-storm, and on October 12, 1874, I saw a pair at Riverdale, where I also observed a male on June 8, 1872. Mr. Akhurst tells me that on Long Island one or more of these birds are taken almost every year, and further states that he has often found them about Sandy Hook, and knew of a pair breeding years ago near Jersey City.

***Corvus ossifragus.*** FISH CROW.—As will be seen from the following remarks, there is no doubt that a pair of these birds have been in the vicinity during the past season. I first noticed them on February 24, being attracted by their small size, and for several weeks thereafter they were often seen, their peculiarities of note and habit at once distinguishing them from the common Crow.

Their favorite resort seems to be a growth of tall and partially decayed locusts bordering a fresh-water pond, and on two of these trees, standing together somewhat apart from the others, the birds were to be found almost every morning, but, owing to their shyness and the openness of the ground, I was unable to approach within gunshot. In alighting they usually chose the very topmost branches of the trees, and when approached manifested their suspicion by a restless and excited motion of the wings, which appeared to be more pointed than in the more stoutly built *C. americanus*. Their note was an abrupt, expressionless croak, usually delivered singly and at regular intervals. Though other Crows were often seen in the vicinity, this pair kept aloof by themselves, and several times I saw them chased by a clamorous party of their larger relatives. Latterly they have been rarely noticed, and then always singly, thus indicating that they are breeding in the vicinity.

***Empidonax acadicus.*** ACADIAN FLYCATCHER.—Arrives the last week in May, and is not uncommon during the summer, frequenting cool shaded glens or retired woodland usually near a running stream. In any such favorable location in the vicinity these birds may be found every summer, though I have never found more than a single pair occupying any one locality, and know of perhaps six such pairs which are with us

every season. The almost proverbial inconstancy and variableness of these birds in the construction of their nests in different parts of the country, is even apparent at a single locality. Indeed, two nests in my collection, which were taken within a mile of each other, are so entirely dissimilar that were they not positively identified, it would be difficult to believe that they belonged to the same species. This mutability exhibited by the species in question is not confined solely to the construction of their nest; for in one of the above-mentioned nests the three eggs were almost incubated on June 18, while in the other the last of three eggs was deposited on June 28, showing a difference of at least three weeks in their time of laying. It is worthy of remark that the *first* nest found was much more warmly and compactly constructed than the latter, possibly the result of foresight on the part of the bird.

**Strix flammea americana.** BARN OWL.—Mr. H. B. Bailey informs me, that late in the afternoon of April 5, last, when passing up Fulton Street, New York City, his attention was directed by a crowd of gaping "citizens" to one of these birds perched upon a house-top, over the street. The bird did not offer to fly, and was left where it had been found, a distinct view of course rendering the identification absolute. Mr. Akhurst has "repeatedly" observed it about Snake Hill, N. J.; and two specimens taken by him on Staten Island are now in the collection of the Long Island Historical Society.

Numerous other of our more southern birds have been recorded from the vicinity of New York City, which lack of space will prevent my mentioning here. With regard to *Goniaphea cærulea*, however, it might be well to state that besides the specimen recorded by De Kay,\* as having been taken on Manhattan Island, Mr. Akhurst in a single day, many years ago, noticed several specimens about Snake Hill, N. J., and again on Long Island, both instances being in the spring. The same gentleman is aware of several (five or six or more) specimens of *Cyanospiza ciris* having been taken on the coast of Long Island, near the Narrows, and he took two specimens near Brooklyn. All of these birds were in fine plumage, and bore no evident signs of having been caged, agreeing in this respect with a male specimen taken at Riverdale on July 13, 1875, which, however, was in somewhat worn plumage. In the "Elliot collection" at the Central Park Museum, I recollect having seen a fine male specimen labelled "New Jersey." It is within the range of possibility that some of these birds may have wandered northward out of their proper habitat, but the popularity of this species as a cage bird, together with the absence of any records from along the Atlantic Coast north of its known range, would render such a supposition improbable. On the other hand, however, the condition of plumage in which the birds were taken, as well as the appearance of the bill and feet, are evidence which would argue in favor of their being wild.

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\* Birds of New York, p. 146.

NESTING OF THE LARGE-BILLED WATER-THRUSH  
(*SIURUS MOTACILLA* [VIEILL.] B.P.).

BY WILLIAM BREWSTER.

UNTIL very recently we have had little or no reliable information bearing upon the nidification of the Large-billed Water-Thrush. Audubon speaks of its nest as "placed at the foot and amongst the roots of a tree," and describes the eggs as "flesh-colored, sprinkled with darker red on the larger end"; but as he failed to distinguish this bird from its northern congener (*S. nevacia*), his account is decidedly unsatisfactory. Mr. T. M. Trippe says \* briefly: "It forms a very neat nest of twigs and grass, which it usually conceals under the roots of a tree overhanging a steep bank or ravine," but he tells us nothing concerning the eggs. In June, 1873, a nest with four fresh eggs was taken at Franklin Station, New London County, Conn., by Mr. Ernest Ingersoll, and fully identified by the capture of the female parent. Of the nest he says: † "It was rather loosely and carelessly constructed of fine grass and some little dead fibrous moss; but beneath, a few, and about the outside, particularly in front, many dead leaves were put, as a sort of breastwork to decrease the size of the entrance and more thoroughly conceal the sitting bird. It was underneath the edge of a perpendicular bank eight or ten feet from the water." The eggs were "lustrous white," and "were more or less profusely spotted all over with dots and specks, and some obscure zigzaggs, of two tints of reddish-brown, with numerous faint points and touches of lilac and very pale underlying red."

The writer had the good fortune to secure two fully identified nests of this species in Knox County, Indiana, during the past spring. The first, taken with the female parent May 6, contained six eggs, which had been incubated a few days. The locality was the edge of a lonely forest pool in the depths of a cypress swamp near White River. A large tree had fallen into the shallow water, and the earth adhering to the roots formed a nearly vertical but somewhat irregular wall about six feet in height and ten or twelve in breadth. Near the upper edge of this, in a cavity among the finer roots, was placed the nest, which, but for the situation and the peculiar character of its composition, would have been exceedingly conspicuous. Its presence was first betrayed by the female, which darted off as one of our party brushed by within a few feet. She alighted on a low branch a few rods distant, uttering her sharp note of alarm, and vibrating her tail in the usual characteristic manner, but other-

\* Notes on the Birds of Southern Iowa. Proc. Bost. Soc. Nat. Hist., Vol. XV, 1873, p. 234.

† Amer. Nat., Vol. VIII, p. 238.

wise evincing no particular anxiety or concern. The nest, which is before me, is exceedingly large and bulky, measuring externally 3.50 inches in diameter, by 8 inches in length, and 3.50 inches in depth. Its outer wall, a solid mass of soggy dead leaves plastered tightly together by the mud adhering to their surfaces, rises in the form of a rounded parapet, the outer edge of which was nicely graduated to conform to the edge of the earthy bank in which it was placed. In one corner of this mass, and well back, is the nest proper, a neatly rounded, cup-shaped hollow, measuring 2.50 inches in diameter by 2.50 inches in depth. This inner nest is composed of small twigs and green mosses, with a lining of dry grasses and a few hairs of squirrels or other mammals arranged circularly. The eggs found in this nest are of a rounded-oval shape and possess a high polish. Their ground-color is white with a fleshy tint. About the greater ends are numerous large but exceedingly regular blotches of dark umber with fainter sub-markings of pale lavender, while over the remainder of their surface are thickly sprinkled dottings of reddish-brown. But slight variation of marking occurs, and that mainly with regard to the relative size of the blotches upon the greater ends. They measure, respectively, .75×.63, .78×.64, .75×.63, .76×.62, .76×.62, .75×.61.'

The second nest was taken May 8, on the opposite side of the same pond, in a precisely similar situation. Attention was first called to its proximity by the presence of the old birds, which were sitting on a mossy log a few yards off, the male pouring forth an almost uninterrupted strain of gushing melody to his mate. Enlightened by previous experience, the writer went directly to the only fallen tree in the vicinity, and almost at the first glance among the earth-laden roots looked in upon the eggs. This nest was very prettily sheltered from the rains, and concealed from prying eyes above, by a large white fungus, about the size and very nearly the shape of a shingle, which projected directly over it from the wall of earth behind, barely leaving sufficient space beneath to admit the passage of the bird. In general character this nest is nearly identical in every respect with the one already described. It has the same rounded outer wall of closely impacted dead leaves, with, however, an admixture of dry mosses, cypress twigs, and strips of bark. In shape it is nearly square, measuring externally 6.50 inches in diameter by 3.54 inches in depth. The inner nest measures 2.73 inches in diameter by 2.50 inches in depth, and is lined with dry grasses, leaf-stems, and a few white hairs. The eggs were four in number and perfectly fresh; probably more would have been laid had the nest been left undisturbed. They agree closely in shape with those of the first set, and have an equally high polish, but are somewhat more heavily and handsomely marked. The color is creamy-white with heavy blotches of umber-brown generally distributed, but occurring most thickly at the greater ends; fine dottings of lighter brown, and a few spots of pale lavender, fill in the intermediate spaces. They measure, respectively, .71×.60, .71×.60, .72×.60, .72×.61. In each of these two sets the eggs show unusually little variation *inter se*.

On May 12, a third nest, containing five young birds, well feathered and nearly able to fly, was found by my friend Mr. R. Ridgway, on the shore of an isolated little woodland pond. The site, in this instance, was at the foot of a huge stump, the nest being placed in a cavity in the rotten wood. Still another nest was found by the writer, April 29, under the bank of White River, among the earth and roots, and well sheltered by the projection of the bank above. In general construction, as well as situation, this nest was so nearly identical with those already spoken of that any further description would be superfluous. The female was apparently sitting upon the empty nest, and was shot as she flew from it. Upon dissection an egg of full size but without a shell was found in her oviduct, and others in different stages of development in the ovaries. From the above record it may be inferred that the Large-billed Water-Thrush breeds very irregularly, at least in the locality where these observations were made. It seems not unlikely that this may be largely due to the varying height of the water in the different localities which it frequents, the banks of the large rivers and the shores of the ponds connected with them being more subject to inundations in the early spring than the isolated pools and streams among the hills.

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#### DESCRIPTION OF A HYBRID (*HIRUNDO HORREORI-LUNIFRONS*) BETWEEN TWO NORTH AMERICAN SWALLOWS.

BY SPENCER TROTTER.

THE bird from which the following description is taken was shot at Linwood, Delaware County, Pa., May 22, 1878, by Mr. C. D. Wood, whose attainments as an ornithological collector are well known. Unfortunately he did not carefully determine its sex by dissection, though he believed it to have been a male. My attention was first called to it by his informing me that he had shot a cross between the Barn and the Cliff Swallow; and from the following description it will be seen that the bird presents the more strongly marked features of both *Hirundo horreorum* and *Petrochelidon lunifrons*. This blended likeness stamps it as a *hybrid* between the two above-mentioned species. The specimen has been examined by several competent ornithologists, who all pronounce its hybrid nature as unquestionable. The bird is remarkable not only as being the result of a *mésalliance* between two different species, but between two different genera, and it curiously combines the

characters of both in a most marked degree. I have therefore named the bird *Hirundo horreori-lunifrons*, this name suggesting the nature of the hybrid in question.

*Description.*—Bill similar to that of the Barn Swallow (*Hirundo erythogastra* var. *horreorum*), but rather stouter. Nostrils opening laterally, partially overhung by membrane, though not so much so as in the above-named species. Tarsi about as long as middle toe without the claw, feathered at the upper end on the inside. Toes cleft as in *horreorum*; the lateral claws reach to base of middle. Tail forked for about *one fourth* of its length, with white spots on the rectrices, but not so strongly marked as in *horreorum*, and the outer feathers are not lengthened and linear as in that species. The wings, when folded, reach nearly to end of tail. Head and back steel-blue with a chestnut-brown frontlet, as in *horreorum*, the chestnut extending farther back on the head than in that species. Rump reddish-white, the color paler than in the Cliff Swallow (*Petrochelidon lunifrons*). Wings similar to those of *horreorum*. Throat and breast chestnut-brown, with a slight central black patch, as in *lunifrons*, and a postoral band as in *horreorum*. Sides under the wings and under parts generally of a shade varying between that of *horreorum* and *lunifrons*. Crissum reddish-white, the longer feathers with a slight smoky tinge. Lores dusky; rictus slightly bristled. Cheeks steel-blue, as in *horreorum*, but with a slight tendency to chestnut, as in *lunifrons*. Dimensions (from the dried skin): length, 5.88; wing, 4.63; tail, 2.69.

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## Recent Literature.

ORNITHOLOGY OF THE WHEELER EXPEDITIONS OF 1876 AND 1877.  
 I. REPORT FOR 1876.\*—Notice in the Bulletin of this important paper of Mr. Henshaw's upon the ornithology of California was quite accidentally omitted at the time of its appearance in 1877. The report embodies the results of Mr. Henshaw's investigations into the ornithology of California during the summer and autumn of 1875. Field-work began on June 1, and was prosecuted unremittingly up to October 15. The localities most carefully examined were the islands of Santa Cruz, in the Santa Barbara

\* Annual Report upon the Geographical Surveys West of the One-Hundredth Meridian, etc. By George M. Wheeler, First Lieutenant of Engineers, U. S. A. Being Appendix JJ of the Annual Reports of the Chief of Engineers for 1876. Washington, Government Printing-Office, 1878. Report on the Ornithology of the Portions of California visited during the Field Season of 1875. By Mr. H. W. Henshaw. pp. 224–278.

Channel, at which locality the first two weeks of June were spent; Santa Barbara, where the party remained until July 13; the region about Mt. Whitney, visited in September; and, lastly, Kernville and Walker's Basin, where the season was ended in October. When it is taken into consideration that much, if not nearly all, of the ground traversed had been previously more or less carefully worked up by ornithological explorers, it is not to be wondered at that comparatively few discoveries are chronicled in the present paper. Among the more important results are the extension, either southward or westward, of the previously recorded range of many species of birds. Several rather tangled problems of seasonal distribution are likewise satisfactorily solved; as in the case of the two Thrushes, *Turdus Swainsoni ustulatus* and *T. pallasi nanus*, the former being ascertained to be the species which breeds in California, while the latter occurs only as a migrant from regions farther north. *Spizella breweri* is, we notice, accorded specific rank, and on apparently substantial grounds; but in the case of the Fox Sparrows (genus *Passerella*) we believe the author's more recent investigations have failed to confirm the arrangement settled upon in the present paper. The biographical annotations are often full, and always exceedingly interesting; especially so is the account of the breeding "rookery," of the Red-and-white Shouldered Blackbirds (*Agelaius tricolor*) in a nettle-bed, and the description of the habits of the little-known Wandering Tatler (*Heteroscelus incanus*).

Mr. Henshaw was misinformed respecting the nest of *Empidonax traillii pusillus* "built in the hollow of a tree." The nest referred to is in the writer's possession, together with the parent birds, which are *Empidonax flaviventris difficilis*. The by far too frequent typographical errors which occur throughout the report somewhat mar its otherwise fair appearance, but we understand that this was unavoidable, as the author was absent and inaccessible at the time of the final revise. As a whole the paper is a most creditable one, and forms a very acceptable contribution to our store of knowledge upon the Ornithology of the State of California.

II. REPORT FOR 1877.\* — This report, which we have just received, opens with a description of the country investigated by Mr. Henshaw during the season of 1876, and which lies in the neighborhood of Carson City, Nevada. Immediately following is a systematic and very able consideration of the faunal provinces of the United States, more especially the Middle and Pacific ones. The eastern slope of the Sierras, though properly belonging to the Pacific Province, is shown to be, to a certain extent, intermediate in its character between it and the Middle Province. The

\* Annual Report upon the Geographical Surveys West of the One-Hundredth Meridian, etc. By George M. Wheeler, First Lieutenant of Engineers, U. S. A. Being Appendix NN of the Annual Report of Engineers for 1877. Washington Government Printing-Office, 1877. Report on the Ornithology of Portions of Nevada and California. By Mr. H. W. Henshaw. pp. 1303—1322.

author draws the line between the Pacific and Middle Provinces at about the eastern foot of the Sierras, deducing this conclusion mainly from the examination of material collected in the neighborhood of Carson and among the eastern foothills of the Sierras. The full results of the season's work are given in two detailed lists, entitled, respectively, "List of Birds observed near Carson City, Nevada, from August 25 to September 16, and from November 10 to November 20, 1876, with Notes," and "List of Birds observed on the Eastern Slope of the Sierras, near Carson City, Nevada, from September 16 to November 7, with Notes." The annotations in both of these lists are in most cases very brief, but some of them possess considerable interest and value. The announcement of the occurrence of *Dendrocygna fulva* in large flocks at Washoe Lake early in the year 1877 is especially worthy of attention. Their appearance in such large numbers is considered by Mr. Henshaw as exceptional, but he regards it as "by no means unlikely that future investigations will show the bird to be a regular summer resident of such portions of this region as are suited to its needs." Among the species occurring upon the eastern slope of the Sierras, *Turdus naevius* is here given for the first time, but unfortunately upon somewhat questionable grounds. The genus *Passerella* is again overhauled, and in the light of more recent investigations a somewhat different and apparently more substantial arrangement decided upon. The three Western forms, *schistacea*, *townsendi*, and *megarhyncha*, stand as varieties of *iliaca*, — a disposition which, we believe, represents Mr. Henshaw's present views upon the subject. — W. B.

ALLEN'S BIRDS OF MASSACHUSETTS.\* — It is seldom that one meets with a local catalogue more thoroughly satisfactory in all essential respects than the present one. Careful, conservative, almost to a fault, and as nearly exhaustive as may be possible, in regard to data, authorities, and evidence, in the cases of rare or irregular visitors, it is a model as to what a local list should be. Of course it is not yet quite perfect, for that feature was not to be looked for, but it is sufficiently so for all ordinary purposes. The data that have escaped the author's keen researches are few indeed and generally not important, while very many are now published for the first time.

The first portion of this list presents the names of three hundred and sixteen species of ascertained occurrence in Massachusetts, not one of which can be challenged. This number might even be increased if several forms were recognized as having what the present writer considers their legitimate specific value. About one hundred and thirty-five are marked as breeding within the State, and this number might also be somewhat extended, to the writer's positive knowledge. *Dendreca striata*, for instance,

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\* A List of the Birds of Massachusetts, with Annotations, by J. A. Allen. Bulletin of the Essex Institute, Vol. X, pp. 3-37, April, 1878.

has been seen in North Adams, in August, with young so immature that they must have been of local origin; *Myiodioctes canadensis* breeds every summer in Essex County, the writer having two sets of their eggs taken in Lynn, and of course the omission of the \* from *Colaptes auratus* was an accident. Without wishing in the least to criticise this list of one hundred and thirty-five species, would it not be well, if any of these instances given are inferred, rather than known, to designate all such by a distinguishing mark? And where it is positively known that such species as *Turdus pallasi*, *Mimus polyglottus*, *Certhia familiaris*, *Dendræca cærulescens*, etc. have bred within the State, to mention when and where, as is done in the case of *Junco hyemalis*? The list of Massachusetts species supposed to be extirpated is one of almost painful interest, and one we fear to be ere-long materially increased. Specimens of the Wild Turkey have been taken in Franklin County as late as 1842, but railroads have since completed their extinction.

The third list, of probable occurrences, is also a very interesting one, but in regard to several species rests so entirely on mere speculation as to be suggestive of a conflict of opinions as to the ground of this probability. What, for instance, can be suggested as circumstances likely to bring *Saxicola œnanthe* to Massachusetts? It is of rare occurrence in Labrador, and there only breeds in the extreme northeastern corner. Its migrations are either by way of the Faroes, Iceland, and Greenland, or directly across the ocean to South Greenland.\* *Guiraza cærulea* and *Protonotaria citrea* are supposed to approach Eastern Maine from the northwest by a circuitous route, entirely avoiding Southern New England, which, if correctly inferred, does not favor either ever visiting us, though after what has happened it ill becomes one to even seem to prophesy as to what may not occur! Yet the occurrence of *Ægialitis wilsonia* in Massachusetts is another, in the writer's opinion, not to be anticipated.

Three names are given in a list of very doubtful species. One of these, the Small-headed Flycatcher, whatever it may have been, was probably not a *Myiodioctes*. Dr. Pickering's recollections of the individual captured by him in Wenham, and identified by Nuttall, were suggestive of a very small true Flycatcher, and so long as grave doubt exists as to this form, and no type has been preserved, its claim to a full acceptance is inadmissible.

Six birds are classed as introduced species, and ninety others are named as extremely rare or occasional visitors. This number, it is possible, will be largely increased through the larger numbers of observers on the look-out for them, and will always contain an indefinite number of names the conditions of whose presence must ever remain an unexplained enigma. In the spring of 1877 a fine fresh specimen of *Cyanospiza ciris* flew into

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[\* Its capture near Quebec, Canada, and on Long Island, N. Y., and its somewhat frequent occurrence in the Bermudas, might be considered in this connection. (See Baird's Review of American Birds, 1864, p. 61.)—J. A. A.]

an open window in Boylston Street, Boston, and there remains a caged bird. But had it been one before? Probably yes, but possibly no. It had not the appearance or action of one. Yet so probable was it that it had escaped from confinement that it was not thought worthy of a record.

The great merits of Mr. Allen's lists are that they furnish a succinct yet thorough history of all claims, of whatever nature, to be recognized as Massachusetts birds. Its five divisions well present the character of these claims, and show why certain names should not be received. The completeness of the references and data, and the numerous additions, giving new announcements or unrecorded captures, is also quite remarkable. As a matter of course, here and there one or two interesting captures may have escaped his notice, e. g. *Syrmium cinereum*, Lynn, 1872 (History of North American Birds, III, p. 32), while others of which there is no record, and which he could not know, as the capture at Swampscott, August 27, 1876, of *Tringa bairdi*, male, by Mr. Wm. A. Jeffries, and that of a Short-tailed Tern (*Hydrochelidon niger*, Saunders) at Nantucket, August 8, 1877, by Mr. Geo. H. Mackay, both specimens being in the possession of their captors. That these exceptions are so very few attest at once the diligence of the author and the completeness of his list. Thirty-five North American birds have been added to the Massachusetts list since 1867.

— T. M. B.

**MR. H. SAUNDERS ON THE STERNINÆ.\***—Having had opportunities of examining interesting types of various real or supposed species of *Sterninæ*, the author has anticipated in a measure the monograph of the *Laridæ* upon which he has long been engaged, by giving the gist of his observations in the present revision of the subfamily *Sterninæ*, which may be regarded as the continuation of papers already published in the same periodical on the *Larinæ* and *Lestrinæ*. We have here in condensed and convenient shape the main results of a protracted study, representing much laborious and faithful application; the author has evidently worked with care, and fully availed himself of the unusual facilities he has enjoyed. His examination of the types of various obscure species has enabled him to clear up a good many points hitherto doubtful, and make an exhibit which bears its recommendation on its face. I regard the paper as the most authoritative one we possess on this subject, being prepared, under exceptionally favorable circumstances, by a skilful ornithologist who has made the present family a particular study.

The author, as it seems to me judiciously, greatly reduces the number of genera which have been wildly proposed for birds of this subfamily. Though I formerly admitted a somewhat larger number, in view of my studies of our representatives of the group, than he now recognizes, I freely

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\* On the *Sterninæ*, or Terns, with Descriptions of three new Species. By Howard Saunders, F.L.S., F.Z.S. Proc. Zoöl. Soc., 1876, pp. 638—672, PL LXI.

concede all that Mr. Saunders claims respecting the shading into one another of several of them, and agree that if we are to take positive structural modification as the only genus-warrant, the minimum number of five must be accepted. Out of more than thirty (!) genera which have been proposed for this remarkably homogeneous and compact group of only about fifty species, Mr. Saunders only allows *Sterna*, *Hydrochelidon*, *Nenia*, *Gygis*, and *Anous*. But it does not follow that a few others, like *Haliplana* and *Sternula*, are not at least convenient sections or subgenera to recognize in so difficult a group.

The three new species are *S. tibetana*, p. 649 (near *longipennis* and *fluvialis*), *S. eurygnatha*, p. 654, f. 1 (the Atlantic form of *elegans*), and *Gygis microrhyncha*, p. 668, f. 5 (with a smaller bill than that of *G. candida*, and white instead of black shafts of the primaries). The colored plate illustrates the heads of three species of *Anous*.

Want of space alone prevents me from giving, as I should wish to do, an abstract of this valuable paper; but I must confine myself to such portion as bears upon the species of Terns which occur in North America. According to Mr. Saunders's determinations, our *Sterninae* stand as follows:

**1. Hydrochelidon leucoptera (Meisn. and Schinz).**

*SS. fissipes* and *nævia*, Pall. — *Hyd. leucoptera*, Boie. — *Viralva leucoptera*, Steph. — *Hyd. nigra*, Gray. — *S. nigra*, Schleg. — *Hyd. subleucoptera*, C. L. Brehm. — *Hyd. juvanica*, Swinhoe nec Horsf.

This is the Old World species that I recently recorded as *H. nigra* from Wisconsin (B. N. W. 1674, 709). It seems that Gray, and those of us who have followed him, were wrong in identifying it with *S. nigra*, Linn., the latter being = *fissipes* = *nævia*, L. 1766 = *lariformis*, L. 1758, "as any one who is willing to take the trouble of examining the matter for himself will" find out, says the author.

**2. Hydrochelidon nigra (L.).**

*SS. nigra* (p. 227), *nævia*, *fissipes* (p. 228, 1766), L. — *Viralva nigra*, Steph. — *Larus merulinus*, Scop. — *S. surinamensis*, Gm. — *S. plumbea*, Wils. — *Hyd. nigra*, Boie. — *Hyd. fissipes*, Gray. — *Anous plumbea*, Steph. — *Hyd. plumbea*, Lawr. — *Pelodes surinamensis*, Gray. — *Hyd. lariformis*, Coues [from *S. lariformis*, L. 1758].

I am glad to find my union of the American bird with the European indorsed by such well-versed authority; though as to the name, I prefer to take Linnæus at 1758, as the custom now is this side of the water.

**3. Sterna anglica, Mont.**

*S. nilotica*, Hasselq. ? (pre-Linnæan). — *Gelochelidon nilotica*, Gray. — *Thalasseus anglicus*, Boie. — *Viralva anglica*, Steph. — *Laropis anglica*, Wagler. — *Gelochelidon anglica*, Coues. — *S. aranea*, Wils. — *Gelochelidon aranea*, Gray. — *S. affinis*, Horsf. (type examined, H. S.). — *Gelochelidon baltica*, G. meridionalis, Brehm. — *S. macrolarsa*, Gould. — *Gelochelidon macrolarsa*, Gould.

Since I joined *aranea* to *anglica*, it has become generally admitted that

it is identical, and Mr. Saunders now unites *macrotarsa*, reducing all the "Gull-billed" Terns to one.

**4. *Sterna fluviatilis*, Naum.**

*S. hirundo*, L. in part, and of most authors. — *Larus bicolor*, *L. sterna*, *L. columbinus*, Scop. — *S. fluviatilis*, Naum. — *S. senegalensis*, Sw. — *S. wilsoni*, Bp. — *SS. macrodactyla*, *macroptera*, Blas. — *S. dougalli*, Layard *nec* auct.

Probably no one thinks of separating the American bird now; but it was otherwise then.

**5. *Sterna macrura*, Naum.**

*S. hirundo*, L. in part. — *S. paradisea*, Brünn (*nec* auct.). — *S. macrura*, Naum. — *S. arctica*, Temm. — *S. brachypus*, Sw. — *S. pikei*, Lawr. [*pykii*, Bp.]. — *S. portlandica*, Ridgw.

The general impression seems to be that *S. hirundo*, L., is a composite species with which it is best to have nothing to do.

**6. *Sterna forsteri*, Nutt.**

*S. hirundo*, Sw. & Rich. *nec* auct. — *S. havelli*, Aud. (*vide* Coues).

**7. *Sterna dougalli*, Mont.**

*S. paradisea*, Keys. & Blas. and authors, *nec* Brünn. ; *macdougalli*, *douglasi*, of some. — *S. gracilis*, Gould. — ? *Larus polo-candor*, Sparrm.

This name must stand in place of the more usual *paradisea*; for Brünnich's bird was an Arctic Tern; the Roseate is not a boreal bird.

**8. *Sterna cantiaca*, Gm.**

*S. africana*, Gm. — *S. boysei*, Lath. — *S. canescens*, Mey. & Wolf. — *S. acuflavida*, Cabot. — *Thalasseus cantiacus*, Bois. — *Actocephalon cantiacus*, Kaup. — *Thalasseus canescens*, Th. *candicans*, Brehm. — *Thal. acuflavidus*, Coues.

I long since relinquished my early attempt to separate *acuflavidus*.

**9. *Sterna elegans*, Gamb.**

*Thalasseus elegans*, Gamb. — *Sterna comata*, Phil. & Landb. — *S. galericulata*, Scl. & Salv., Coues, partly, *nec* Licht.

I am glad to find that we may after all revert to Gambel's name, by which the species was long known. I followed S. & S. in changing to *galericulata* in 1872-74; but according to Saunders, from examination of the type, the latter is a synonym of *mazima* (= *regia*, Gamb.).

**10. *Sterna maxima*, Bodd.**

*S. mazima*, Bodd. = P. E. 988. — *S. cayennensis*, Gm. — *S. cayana*, Lath. — *S. galericulata*, Licht. (type examined, H. S.). — *S. erythrorhynchos*, Wied. — *S. cristata*, Sws. (type examined, H. S.). — *S. regius*, Gamb. — *S. bergii*, Irby, *nec* auct. — *Thalasseus cayanus*, Bp. — *Thal. regius*, Gamb. — *Phaetusa regia*, Bp. — *Thal. galericulatus*, Blas. — *Thal. cayennensis*, Gray.

This large Tern, which proves to inhabit Africa as well as the warmer parts of America, has given much trouble. In 1872-74, I declined to follow S. & S., 1871, in identifying *regia*, Gamb., with Buffon's bird, considering that *caspia* might be in question, but I was apparently at fault

here. Saunders makes a gratifying identification in the case of the troublesome *galericulata*, Licht., and it is to be hoped that his examination of the type has settled that species.

**11. *Sterna caspia*, Pall.**

*S. tschegrava*, Lepech. — *S. caspica*, Sparrm. — *S. megarhynchos*, Meyer u. Wolf. — *S. melanotis*, Hartl. — *S. major*, Ellman. — *Thalasseus caspius*, Boie. — *Hydroprogne caspica*, Kaup. — *Sylochelidon caspia*, *Syl. balthica*, *Syl. schillingii*, Brehm. — *Syl. strenuus*, Gould. — *Helopus caspius*, Wagl. — *Thalassites melanotis*, Sw. (type examined, H. S.). — *Syl. melanotis*, Bp.

**12. *Sterna trudeaui*, Aud.**

*Phaetusa trudeauii*, Blas. — *Sterna frobeenii*, Phil. & Landb.

A remarkably good species, but as doubtful as ever as a North American one.

**13. *Sterna antillarum*, Less.**

*S. argentea*, Nutt. — *S. frenata*, Gamb. — *S. superciliaris*, Cab., Coues, 1872, nec V. — *S. Superciliaris* var. *antillarum*, Coues, 1874.

I was doubtless hasty in identifying our bird positively with Vieillot's, but I am not prepared, without further showing than is in this paper, to admit specific distinction in this case. *S. minuta* has a white rump and tail; in *SS. superciliaris* and *antillarum* the pearly color of the mantle extends on these parts. But I was not aware of, or at least did not consider, the difference in the color of the feet, as described by Mr. Saunders.

**14. *Sterna aleutica*, Baird.**

Sp. *optima!* as the author agrees, differing from Dr. Finsch; whatever *S. camtschatica*, Pall., may be, it is not this.

**15. *Sterna anæsthetia*, Scop.**

*S. anæsthetus* (sic), Scop. — *Haliplana anosthætus* (sic), Gray. — *S. panayensis*, Gm. — *S. panaya*, Lath. — *Haliplana panayensis*, Wagl. — *Onychoprion panayensis*, S. & S. — *Onychoprion panaya*, Gould. — *S. oahuensis*, Bloxh. — *S. "antarctica*, Cuv." — *S. melanoptera*, Sw. (type examined, H. S.) — *S. infuscata*, Heugl. — *Haliplana discolor*, Coues. — ? *Hydrochelidon somalensis*, Heugl.

**16. *Sterna fuliginosa*, Gm.**

*Haliplana fuliginosa*, and *Onychoprion fuliginosa*, Wagl. — *Planetis guttatus*, Wagl. — *Sterna infuscata*, Licht. ! (type examined, H. S.). — *Thalassipora infuscata*, Gray. — *Anous l'herminieri*, Less. — *S. gouldii*, Reich. — *S. luctuosa*, Phil. & Landb. — *Halip. fuliginosa* var. *crissalis*, Bd.

**17. *Anous stolidus*, (L.).**

*S. stolida*, *S. fuscata*, L. — *S. pileata*, Scop. — *S. senex*, Leach. — *S. unicolor*, Nordm. — *Anous stolidus*, Gray. — *Megalopterus stolidus*, Boie. — *A. niger*, *A. fuscatus*, *A. spadicea*, Steph. — *A. rousseauii*, Hartl. — [*A. stolidus* var. *frater*, Coues, *pessimè*.]

It is to be hoped that in his final monograph the author, who has thus handled the subject so ably, will synonymize the genera in the same way

he has here worked up the synonymy of the species, and that he will spare no printer's ink which may be wanted for the full exposition and discussion of synonymatic matters, giving us his processes as well as his results; so that, being once done, the matter may be done for once and all. The present writer's interest in the subject yields only to the cordiality of his wishes for the most successful accomplishment of the author's work.—  
ELLIOTT COUES.

**SENNETT'S NOTES ON THE ORNITHOLOGY OF THE LOWER RIO GRANDE, TEXAS.**—Mr. Sennett's contribution on one hundred and fifty-one species of birds observed on the southern border of Texas\* is a paper of more than ordinary interest for one of its kind, the descriptions in many cases being almost a biography of the species, a number being those of which we have had but little or no previous information, and it covers ground quite new ornithologically, or at least not recently worked over. The main collecting field extended from a short distance above Hidalgo, on the Rio Grande, to Point Isabel on the coast, near the mouth of the river, a distance of three hundred miles by water and one hundred by road. The period covered was from the latter part of March to the middle of May, or just about two months. Mr. Sennett certainly collected under many annoyances, but intensely hot days, and numbers of centipedes, rattlesnakes, tarantulas, fleas, woodticks, and red bugs did not prevent his securing some five hundred birds, one of which is new to science, namely, Sennett's Warbler (*Parulu nigrilora*).

The paper is most carefully commentated by Dr. Coues, who gives detailed descriptions of the plumages, with pertinent remarks respecting the above-named Warbler, *Molothrus aeneus* (our new Cowbird, with a red eye), *Myiarchus crinitus erythrocercus* (which is the variety of the Great-crested Flycatcher occurring, and not *cooperi* or *cinerascens*), *Amazilia cerviniventris* (the Rufous-bellied Hummer), *Glaucidium ferrugineum* (both the second examples taken within our limits), and *Æchmoptila albifrons* (the White-fronted Pigeon), as also the characters of this genus, which the doctor proposes for the group of Pigeons to which *albifrons* belongs.

The Yellow-throated Warbler obtained is typical *Dendroica dominica albiflora*, which, Dr. Coues remarks, "seems to prevail, if it be not the only form, in the Mississippi Basin and Texas." Mr. Sennett got a single specimen of the Missouri Skylark, and saw others; interesting, as Coues says, "on account of the locality, which is the southernmost on record." The Quails are true subspecies *texana*. The skins of *Peucaea cassinii* are valuable as proving by their plumage that the species is a good one. A specimen of the Painted Finch or Nonpareil was shot, which, though in

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\* Notes on the Ornithology of the Lower Rio Grande, Texas, from Observations made during the Season of 1877. By George B. Sennett. Edited, with Annotations, by Dr. Elliott Coues, U. S. A. Bull. U. S. Geol. and Geograph. Survey, Vol. IV, pp. 1-66, February 5, 1878.

the plumage of the adult female, dissection proved to be a male bird. Mr. Sennett is confident that the Turnstone (*Strepsilas interpres*) breeds along the entire coast of Texas, —certainly an interesting fact, if so.

The beautiful Ibises obtained, and to which the writer justly gives two pages of text, are the white-faced bird, *Falcinellus* (late *Ibis*) *guarauna*; and two young birds, entirely green-feathered, place *thalassina* among the synonyms. Is not this species now entitled to be called the ordinary North American bird rather than *igneus* (late *orditi* ? of modern writers) ?

The nomenclature of the *Ardeidae*, or Herons, is based on Mr. Ridgway's late investigations, and we again have for *Ardea egretta*, *candidissima*, and *caerulea* the genera, respectively, *Herodias*, *Garzetta*, and *Florida*; also *Hydranassa tricolor* for late *Ardea leucogastra* var. *leucophrymna*; *Di-chromanassa rufa* for *Ardea rufa*, and *Nyctherodius* for *Nyctiadea violaceus*. The whole makes very interesting reading, and is a valuable and welcome addition to our increasing file of local list. — H. A. P.

**MAYNARD'S BIRDS OF FLORIDA.** — Part IV of this long-delayed and important work,\* which has recently appeared, is wholly devoted to the family *Fringillidae*, of which fourteen species are described, carrying the group from *Chrysomitris* to *Pipilo*. It is illustrated with a fine colored plate of the Ipswich or Pallid Sparrow (*Passerulus princeps*), representing the adult in spring. To original, somewhat detailed descriptions of the different phases of plumage of the various species treated the author adds short, very pleasantly written descriptions of their habits. The biographical portions generally relate more especially to their life in Florida, as observed by the author during many seasons of exploration, covering nearly all parts of the State. Mr. Maynard's long experience as a field ornithologist in the "Land of Flowers," and his well-known attainments as a naturalist, render him eminently fitted for the work he has here undertaken. Although the fascicles of the work have thus far appeared at rather long intervals (the first part having been issued in 1872), we are assured that it will now be rapidly pushed forward to completion. — J. A. A.

**JORDAN'S MANUAL OF VERTEBRATED ANIMALS.** — We are glad to see that the demand for Professor Jordan's excellent Manual of the Vertebrates of the Northern States has so soon rendered necessary a new edition<sup>†</sup> of this important work, and that the second edition has not only been to

\* The Birds of Florida, with the Water and Game Birds of Eastern North America. By C. J. Maynard. Illustrated. 4to. Part IV, pp. 89-112, and one Plate. C. J. Maynard & Co., Newtonville, Mass., 1878.

† Manual of the Vertebrates of the United States, including the District east of the Mississippi River, and north of North Carolina and Tennessee, exclusive of Marine Species. By David Starr Jordan, Ph. D., M. D., etc. Second Edition, revised and enlarged. Chicago: McClurg & Co., 1878. 12mo. pp. 407. Price, \$2.50.

some extent "revised," but enlarged by the addition of upward of fifty pages of new matter. The former accounts of the mammals, birds, and reptiles remain unchanged, with the exception of a few verbal changes in respect to nomenclature, but several pages of new matter are added in the "Addenda," in which are included fifteen species of mammals and seven of birds not contained in the former edition. The account of the fishes has been entirely rewritten; generic diagnoses have been substituted for the "artificial keys" of the former edition; and the latest results of this author's recent investigations of this class have been incorporated. The high praise we felt justified in bestowing upon the first edition (see this Bulletin, Vol. I, p. 93) consequently applies with a still greater force to the present one. We hope that at no distant day the author will feel justified in so far enlarging the scope of his work as to include all the Vertebrates of North America, or, at least, of that portion north of Mexico. — J. A. A.

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## General Notes.

**CAPTURE OF THE YELLOW-THROATED WARBLER IN MASSACHUSETTS, AND NOTES ON OTHER RARE MASSACHUSETTS BIRDS.**—In the collection of Mr. George E. Browne of Dedham I saw, a few days since, a Yellow-throated Warbler (*Dendræca dominica*) that was shot by him on the banks of Charles River in that town nine or ten years ago. This is a new bird to the State and the second New England record. Mr. Browne also had a specimen each of the King Rail (*Rallus elegans*) and the Snow Goose (*Anser hyperboreus*). The former was got on the Sudbury Meadows some years since, the latter off Scituate in November, 1877. This occurrence of the Rail is the second instance known for Massachusetts, and the Goose is perhaps worth noting.—H. A. PURDIE, *Newton, Mass.*

**CAPTURE OF TWO RARE BIRDS IN THE HUDSON RIVER VALLEY.**—  
**1. *Centurus carolinus* (Linné) Swainson. RED-BELLIED WOODPECKER.**—I recently examined a handsomely mounted Woodpecker of this species in the possession of Mr. Jas. S. Buchanan, of Newburgh, which was taken at Cornwall, on the Hudson, in September, 1870.

**2. *Colymbus septentrionalis* (Linné). RED-THROATED DIVER.**—After ineffectual efforts to trace supposed specimens of this species, I was agreeably surprised to find a fine immature example in the collection of Mr. Peter de Nottbeck, Esq., taken (near his residence) November 14, 1876, on the Hudson River, at Low Point, sixty-one miles from New York.—EDGAR A. MEARNS, *Highland Falls, N. Y.*

**THE BLUE-GRAY GNATCATCHER (*Polioptila caerulea*) IN MASSACHUSETTS.**—Among a number of mounted birds presented to the New England col-

lection of the Boston Society of Natural History by Mr. F. I. C. Swift of Falmouth, Mass., is an adult male specimen of the Blue-gray Gnatcatcher. This is the second record of its occurrence, the first specimen having been taken at Chatham, November, 1877 (Nutt. Bull., III, p. 45). It appears, by the letter of Mr. Swift, that his specimen was taken in the same part of the State one month later. In answer to my letter of inquiry, Mr. Swift writes: "I shot it on the 18th day of December last, in a line of low bushes skirting a fresh-water pond (in Falmouth) which separated the same from an old field thickly studded with pines of several varieties and about ten years' growth. The locality was in a southern exposure, and I think there was no ice at that time on the pond." — T. M. BREWER, *Boston, Mass.*

THE GROUND DOVE (*Chamæpeleia passerina*) IN NEW YORK. — In the month of October, 1862, while shooting Robins and Golden-winged Woodpeckers near 158th Street and 12th Avenue, New York City, I killed a bird of this species. It was one of a flock of seven which were sitting in a tall tulip-tree near the road. At that time, being but a young boy, the only interest attaching to the specimen arose from the fact that it was the first "Pigeon" that I had ever shot, but as I was somewhat familiar with the plates of Audubon's Birds of America (the original edition, folio) I recognized the bird as one that I had seen, and, on comparison with the plate (CLXXXII), I decided that it was a young Ground Dove. I subsequently took the specimen to the late John Woodhouse Audubon, who, after examination, confirmed my previous conclusion, and told me that it was a southern bird which he had never seen so far north before. The specimen was not preserved, nor can I give, more exactly than I have already done, the date of its capture. — GEORGE BIRD GRINNELL, *New Haven, Ct.*

SWALLOW-TAILED KITE IN DAKOTA IN WINTER. — I am informed by my valued correspondent, Dr. C. E. McChesney, U. S. A., of the occurrence of *Elanoides forficatus* at Fort Sisseton, Dakota, during nearly the whole of last winter. The Indians also informed Dr. McChesney of the residence of the bird along the James River in the winter and early spring months, and of its giving them some trouble by springing their traps, occasionally, however, getting caught itself. This account tallies with Trippe's Minnesota record (north of Mille Lac, lat. 47°). While at Pembina, Dakota, lat. 49°, I was assured by an officer of the occasional appearance of the bird there. — ELLIOTT COUES, *Washington, D. C.*

APOLOGETIC. — I sincerely regret that my hasty and inaccurate reference to Mr. N. C. Brown's brief mention of the occurrence, near Portland, of the Sharp-tailed Finch should have given to that gentleman even a moment's annoyance. Nothing could have been farther from my intention than to "misquote" him. Indeed, had I *quoted* him the mistake could

not have been made. My point of interest was the locality, the number seen was to me of no moment. Remembering that he had spoken of the "bird" in the singular number, I had a mistaken impression that he had seen but one. Certainly the readers of the Bulletin have no occasion to regret my careless mistake, since it has been the means of eliciting an interesting and more full account of the occurrence of this species in a before unknown and unusual locality.

My statement that not a specimen of the *Micropalama* was then known to have been taken along the entire coast of Maine may have been "sweeping." It was so intended to be. At the time it was made it was literally and exactly true. Of the occasional and irregular occurrence of this bird in the vicinity of Portland I am well aware (see Proc. Boston Soc. Nat. Hist., Oct. 3, 1877). Its presence at a single point on the western portion of the coast of Maine, so long as all the rest of the coast is destitute, does not prove either that it is regular in its migrations, or that these extend along the whole New England coast. — T. M. BREWER, *Boston, Mass.*

THE STILT SANDPIPER (*Micropalama himantopus*). — In a late paper read before the Linnean Society of New York, Mr. N. T. Lawrence speaks of this species as being common on the south side of Long Island (N. Y.). He has quite often, while Bay-Snipe shooting, had parties of from three to five, and very frequently a single bird or a pair, come to his decoys. And, of the four specimens in his collection, two, in adult breeding plumage, were taken in July, the others, in fall plumage, in September. This note is interesting as presenting different conditions from any recorded in New England. But one occurrence of this species is known in July, and that in the last part of the month and fifteen miles from the sea. Mr. Geo. N. Lawrence writes me, in reference to this same species, that he lived at Rockaway for five summers, and on one occasion, when he was there, there was a flight of this species and *Gambetta flavigipes*, the latter the most abundant, and of the two species there were killed over one hundred and twenty individuals. He remembers killing six of *M. himantopus* at one shot. He never saw so many together as on that day, but all through the season scattering ones were shot. — T. M. BREWER, *Boston, Mass.*

OCCURRENCE OF THREE SPECIES OF SEA-DUCKS AT ST. LOUIS, MISSOURI. — Mr. Julius Hurtur, of St. Louis, Mo., informs me in a recent letter that he has taken the following-named species of "maritime" Ducks in the neighborhood of that city. They were captured in the so-called "American Bottom," on the Illinois side of the Mississippi River. The record is of special interest as indicating how widely these birds wander beyond their supposed usual range.

1. *Oldemania americana*, Swain. AMERICAN BLACK SCOTER. "A single immature bird, shot November 24, 1875."

2. *Oldemania fusca*, Swain. VELVET SCOTER. "Two specimens, both immature, taken November 24, 1877."

3. *Cededia perspicillata*, Fleming. SURF-DUCK. "One specimen, immature, procured May 3, 1876. It was observed in company with 'Black Jacks' (*Fuligula atra*)."†

Mr. Hurtur also writes that he took a fine specimen of the Purple Gallinule (*Porphyrio martinica*) at the same locality, April 18, 1877. These birds are now all preserved in Mr. Hurtur's collection, which embraces nearly all the species common to the vicinity of St. Louis.—J. A. ALLEN, Cambridge, Mass.

THE CAROLINIAN FAUNA.—In Mr. E. P. Bicknell's excellent paper on southern birds occurring at Riverdale, N. Y. (see this number of the Bulletin, pp. 128—132), I am pleased to find so strong a confirmation of what I ventured to write in 1871 (when the accessible data bearing on the subject of the northern boundary of the Carolinian Fauna were much fewer than now), namely: "On the Atlantic coast this fauna [Carolinian] includes Long Island and a small portion of Southeastern New York, which form its northern limit." I also enumerated thirty-two species as being in a general way "limited in their northward range" by this fauna, adding that a few of them occur also "as stragglers in the Alleghanian Fauna."‡ These thirty-three species include not only those enumerated by Mr. Bicknell, but also many others equally characteristic of the Carolinian Fauna.

Boundaries between faunæ cannot of course be drawn trenchantly; there must be a slight overlapping of northern and southern species, resulting in a debatable or transitional narrow belt between two contiguous faunæ where neither are typically developed. As Mr. H. A. Purdie stated in 1873, "no part of New England has been embraced within the Carolinian Fauna, and properly so, but that its southern border has a tinge of it is quite evident."† While no part of Connecticut is perhaps *typically* Carolinian, its southern border, especially about the mouth of the Connecticut River, is so strongly tinged with it that it may be regarded as doubtful whether it is not as much Carolinian as Alleghanian.‡ Several of the Carolinian birds, in certain years at least, straggle northward, especially in the valley of the Connecticut, to Massachusetts, while some are of quite regular appearance, in very small numbers, as far northward and eastward as Essex County. Yet they are too few in number and too uncertain in their occurrence to form a characteristic element of the fauna.

In the opening paragraph of Mr. Bicknell's paper he refers to the limitation of faunæ and floræ as being "to a certain extent unconformable

\* Bull. Mus. Comp. Zoöl., Vol II, pp. 393, 394, April, 1871.

† Amer. Nat., Vol. VII, p. 693, November, 1873.

‡ This "tinge" in Southern Connecticut, and in fact in the extreme southeastern (maritime) portions of New England generally, is especially shown by the distribution of reptiles, where several southern species are sparingly represented which do not occur at all at more northerly localities.

with isothermal lines." As regards local details this is doubtless in some measure true, but, considering the subject broadly, it may be safely asserted that if there is any principle in ontological geography about which students of the subject generally agree, it is that temperature exerts a direct and controlling influence upon the distribution of life over the surface of the globe. As regards birds, and probably plants and marine life, if not animal and vegetable life in general, the phrase "isothermal lines" should not be taken as meaning lines of mean *annual* temperature, but lines of equal temperature for particular seasons of the year, since in different groups it has been found that the isochrymal or isothermal lines are more strictly the boundary-lines for species and faunæ and floræ than the mean annual lines. Professor A. E. Verrill\* long since pointed out that the mean temperature of the breeding season is of more importance as regards the limitation of birds than that of the whole year,—a suggestion well supported by later investigations.† It is to be borne in mind, however, in this connection, that the lines of mean temperature *as laid down on charts* are only approximate, and do not follow in detail all the minor curves, as becomes apparent at once on a detailed study of any limited region of diversified area. Hence we cannot expect to find the limits of species agreeing in detail with any of the lines as represented on our best meteorological charts. Again, the boundary-lines of species are not constant, and the same is also true of lines of mean temperature, varying as they do more or less in different years. These facts obviously show that we need never expect to be able to lay down an absolute or rigid line of demarcation for either species or faunæ, but that such boundaries must ever be provisional and approximate, and hence somewhat open to differences of interpretation.—J. A. ALLEN, *Cambridge, Mass.*

PHALAROPE, — AN ETYMOLOGICAL BLUNDER.—Happening, not long ago, to be a little curious about the exact meaning of the word Phalarope or *Phalaropus*, I took occasion to consult a Greek dictionary on the question, and by so doing unearthed a somewhat curious etymological blunder. Brisson, who was the first to give the name to the genus, ‡ explains it as follows: "Phalarope, a name that I have given to the birds of this genus, because of the resemblance of their feet to those of the Coot, called, in Greek, *φαλαρίς*." Now, *Phalaropus*, according to all rules for the composition of Greek and Latin words, does not mean "coot-foot" at all, as Brisson intended it should, but "white-patched-foot" (from *phalaros*, "patched with white," and *pous*, "foot"), which is a manifestly inapplicable name, since the Phalaropes all have black or green feet. *Phalaridopus* (from *phalaris*, genitive *phalaridos*, "coot," and *pous*) would mean "coot-foot,"

\* Amer. Journ. Sci. and Arts, 2d Ser., V 1. XLI, 1866, p. 249.

† See Bull. Mus. Comp. Zoöl., Vol. II, 1871, p. 390. Merriam, Rev. Birds of Conn., 1877, p. 2, etc.

‡ Ornithologie, VI, p. 12, 1760.

and this is what Brisson should have written. Nevertheless, the name has served so long as a distinguishing mark of the genus, that it would be by no means advisable to attempt to make an exchange for the etymologically correct form. It is, however, an interesting example of the necessity of a little care in compounding scientific names, if we wish to have them retain any meaning.—JOHN MURDOCH, Roxbury, Mass.

BREEDING OF THE WOODCOCK IN GEORGIA.—Mr. A. T. Cunningham of Atlanta—an enthusiastic sportsman and competent observer—informs me that one of a party consisting of his brother Mr. C. M. Cunningham, Mr. Martin Tuffts, Mr. Rusell (all of Savannah), and himself, while woodcock-shooting on February 17, 1878, at Winkler's and Read's rice-plantations on the Savannah River about twelve miles from that city, in the swamp through which runs the trestle-work of the Charleston and Savannah Railroad, flushed a female Woodcock from a nest containing four eggs. The nest was found after the bird had been shot. Upon this discovery the party gave up shooting. From the actions of other birds of the same species seen on that day, showing an unwillingness to go far from the spots whence they were first flushed, Mr. Cunningham is of the opinion that they were laying. He states that he has frequently seen Woodcock—single birds—at various times throughout the summer, in the swamps near Savannah. The inference is that they breed there.—J. F. HEAD, Atlanta, Ga. (Communicated by E. C.)

[The Woodcock has been found breeding as far south as Jacksonville, Florida (Boardman, Forest and Stream, VIII, 82). While in Jacksonville I had the pleasure of examining the young birds spoken of by Mr. Boardman, and also four chicks of another brood taken near the city on March 10, 1877; all were of about the same size, perhaps a week old. Old hunters at Saint Mary's, Camden County, Georgia, have also assured me that the Woodcock remains in that neighborhood throughout the year.—WILLIAM BREWSTER.]

INTERESTING CAPTURES.—My near neighbors, the brothers E. O. and Outram Bangs, have received during the past week two species whose undoubted occurrence in Massachusetts is worthy of mention:—

*Ibis falcinellus*. GLOSSY IBIS.—A specimen of this species, now conceded to be identical with *Ibis ordi* of Bonaparte, was purchased in the Boston market. It was a fine adult specimen, and had been secured at Orleans, Cape Cod, May 5. Its previous capture here has been recorded by Emmons, Cabot, Nuttall, and others, most recently by Mr. J. A. Allen, from Nantucket (Am. Nat., III, 637), and by Dr. Palmer, from Alton, N. H. (Am. Nat., V, p. 120).

*Phalaropus hyperboreus*, Temm.—NORTHERN PHALAROPE.—A single specimen, not in full plumage, was shot at the same place, and found in the market May 10. It had been dead several days, and the exact date of its capture cannot be given, but probably about May 5.—T. M. BREWER, Boston, Mass.

[I have found *Phalaropus hyperboreus* to be of by no means rare occurrence in Boston market, from Cape Cod and elsewhere along the Massachusetts coast, and remember upon one occasion purchasing four specimens there. It is, however, like several other off-coast species, not commonly found near the land unless forced to take shelter from severe storms.—**WILLIAM BREWSTER.**]

**THE GLOSSY IBIS IN MASSACHUSETTS.**—I have had the pleasure of examining a fresh specimen of the Glossy Ibis (*Ibis falcinellus*), which was taken, May 4, 1878, on Cape Cod, Mass.—**CHARLES B. CORY, Boston, Mass.**

A note from Mr. Ruthven Deane, respecting the above-mentioned specimen, states that it was shot at Eastham, Mass., by Mr. Augustus Denton.

Mr. N. Vickary, of Lynn, Mass., writes me that he has in his possession also a specimen of this species (*Plegadis falcinellus*, Kaup, the *Falcinellus igneus* of recent writers, the *Ibis ordi* of most American writers\*) taken at East Orleans, May 5, 1878. This, with the specimens above recorded by Dr. Brewer and Mr. Cory, makes three that were taken at nearly the same date and near the same locality on Cape Cod, during the first week of May, the present year.—**J. A. ALLEN, Cambridge, Mass.**

**TWO MORE BIRDS NEW TO THE FAUNA OF NORTH AMERICA.**—Professor Baird writes me that among some birds recently taken by Dr. James C. Merrill near Fort Brown, Texas, and forwarded to the Smithsonian Institution, are examples of *Vireo flavo-viridis* and *Sturnella mexicana*. Both of these species are new to our fauna.—**T. M. BREWER, Boston, Mass.**

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\* Opinion varies much among recent writers respecting the proper generic and specific names of this species. Nearly all late writers have adopted *Falcinellus* ("Bechstein, 1803") for the generic name, and *igneus* (Gmelin, 1771) for the specific name. Reichenow, however, employs *rufus* (Scopoli, 1769). Salvin and Slater have recently claimed *Plegadis* (Kaup, 1829) for the generic name, thereby rendering *falcinellus* (Linné, 1766) available for the specific designation. On this point these authors write as follows: "A reference to Bechstein's work shows that that author called the Glossy Ibis *Numenius falcinellus*, and in no way employed the latter title in a generic sense. Failing *Falcinellus*, *Plegadis*, Kaup (Skizz. Entw. Gesch., p. 82, 1829), appears to stand next in order of date; and thus *Plegadis falcinellus* (L.) would be the correct name for the Glossy Ibis."—*Ibis*, 4th Ser., Vol. II, January, 1878, p. 112.

# BULLETIN

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THE PROTHONOTARY WARBLER (*PROTONOTARIA CITREA*).

BY WILLIAM BREWSTER.

IT is not so much my present purpose to go over what has been already written concerning this beautiful and striking Warbler, as to present the result of some original observations, made under very favorable circumstances, in Wabash County, Illinois, and Gibson and Knox Counties, Indiana. Nevertheless, a brief preliminary reference to its past biography may not be out of place here.

The species was first described by Boddaert in 1783. Very little concerning its life history has been put on record by our earlier ornithological writers. Audubon's account is decidedly the best, though it is somewhat brief, and in some respects probably erroneous. Recently more light has been thrown upon the subject, especially in regard to its geographical range and nesting. Judging from the evidence recorded, its distribution is somewhat irregular and erratic, though future investigation may probably be relied upon to fill many apparent gaps. Along the Atlantic coast it occurs more or less regularly — but nowhere, so far as known, numerously — as far north as Charleston, S. C., and as a straggler to Washington, D. C. (Coues and Prentiss); Pennsylvania (Turnbull); and even, as a purely accidental wanderer, to Calais, Me. (Boardman). Westward it is found more abundantly throughout the Gulf States, and extends its migrations north to Kansas, Missouri, and Southern Illinois and Indiana. Indeed, it is probable that its maximum abundance during the breeding season is reached in the States lying about the junction of the Ohio and Mississippi Rivers.

The middle of April, 1878, found me at Mount Carmel, Ill., in  
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the pleasant company of Mr. Robert Ridgway, with the delightful anticipation of a prospective four weeks among the birds of a, to me, new region. What ornithologist but has felt the sensations arising at such times, — the pleasing certainty of meeting many species that are known to occur ; the stimulating hope of detecting others that may, nay, probably will, be found ; and the vague dream of securing some rare prize that shall excite the interest of the whole ornithological world ? But most potent of all to encourage and sustain are the possibilities, without which the toils and hardships of field collecting would be but sad drudgery. A person of prosaic temperament can rarely if ever make a good field-worker. Enthusiasm must be the spur to success. At the time of our arrival there was a temporary lull in the development of the season. March and early April had been unusually warm and pleasant, and vegetation had far advanced. Many of the forest trees were already green with young foliage, and the leaves of others were beginning to unfold. But a period of cold rainy weather succeeded, and everything for a time was at a stand-still. On April 19 the first Prothonotary Warblers were seen. They seemed to be new arrivals, forerunners of the general migration ; shy, comparatively silent, and with that peculiar restraint of manner observable in the first comers of most migratory birds, — a restraint not so much to be wondered at, for a subtle chill and gloom still brooded over the budding forest. Nature seemed to hold her breath in expectancy, and the birds, as well as all wild creatures, are her children, and sympathize in all her varying moods. What lover of the woods has not observed the effect produced upon them by a sudden undefinable something that comes at times over the face of everything, — a slight imperceptible chill, perhaps, or a brief period of cloudiness ; where a moment before all was life, bustle, and joyous activity, there is now brooding depression and almost death-like silence. Oftentimes the effect is but transient, and the former state of things soon resumes.

With a few warm days the change came, and Nature entered upon her gala-day. The tree-tops became canopies of dense foliage ; from the starlit heavens at night came the mysterious lisping voices of numberless little feathered wanderers pushing their way northward amid the darkness, guided by some faculty which must ever remain hidden from mortals. Each succeeding morning found new-comers taking their places in the woodland choir, and every thicket was enlivened by glancing wings and merry bird voices. The spell was

broken, and among all the gay revellers none were more conspicuous than the beautiful Prothonotaries. Day by day their numbers rapidly increased, until by April 27 all had apparently arrived. We now found the Prothonotary Warbler to be, in all suitable localities, one of the most abundant and characteristic species. Along the shores of the rivers and creeks generally, wherever the black willow (*Salix niger*) grew, a few pairs were sure to be found. Among the button-bushes (*Cephalanthus occidentalis*) that fringed the margin of the peculiar long narrow ponds scattered at frequent intervals over the heavily timbered bottoms of the Wabash and White Rivers, they also occurred more or less numerously. Potoka Creek, a winding, sluggish stream, thickly fringed with willows, was also a favorite resort ; but the grand rendezvous of the species seemed to be about the shores of certain secluded ponds lying in what is known as the Little Cypress Swamp. Here they congregated in astonishing numbers, and early in May were breeding almost in colonies. In the region above indicated two things were found to be essential to their presence, namely, an abundance of willows and the immediate proximity of water. Thickets of button-bushes did indeed satisfy a few scattered and perhaps not over particular individuals and pairs, but away from water they were almost never seen. So marked was this preference, that the song of the male heard from the woods indicated to us as surely the proximity of some river, pond, or flooded swamp, as did the croaking of frogs or the peep of the *Hylas*. In rare instances, it is true, nests were found several hundred yards away from any water ; but such apparent exceptions were in nearly every case explained by unmistakable indications that the place, or its immediate vicinity, had been flooded earlier in the season, probably at the time when the site was selected and the nest built. Owing to the exceeding variability of the water-level in the Western rivers, it is not at all improbable that whole tracts of country where these birds breed may be sometimes left high and dry by the receding element before the eggs are hatched.

Everywhere now, from the willow thickets along the streams and the button-bushes on the pond edges came the songs of numerous males, and occasionally one would appear among the foliage or glance across the open water like a ray of golden light. Little idea can be had from preserved specimens of the wonderful beauty and brilliancy of this bird's plumage when alive. Although at times somewhat hard to discover among the yellowish green of their favor-

ite willows, at others, when clinging against the side of an old log or tree-trunk, the yellow head and breast, turned outward to the light, seemed fairly to glow with color, in contrast with the green moss or dusky wood. On cloudy, lowering days I have been surprised at the effect produced by a male flying across an open space close to the dark water. It was as if a sunbeam had glanced athwart the spot, lighting up everything for a moment, and leaving greater gloom from the contrast after it had disappeared. Again and again have I been tempted into shooting one, which I did not really want, but which seemed far brighter than any I had previously taken; upon picking him up, however, I would find him perhaps no more beautiful than many already preserved.

Mating began almost immediately after the arrival of the females, and the "old, old story" was told in many a willow thicket by little golden-breasted lovers. The scene enacted upon such occasions was not strikingly different from that usual among the smaller birds: retiring and somewhat indifferent coyness on the part of the female; violent protestations and demonstrations from the male, who swelled his plumage, spread his wings and tail, and fairly danced round the object of his affections. Sometimes at this juncture another male appeared, and then a fierce conflict was sure to ensue. The combatants would struggle together most furiously until the weaker was forced to give way and take to flight. On several occasions I have seen two males, after fighting among the branches for a long time, clinch and come fluttering together to the water beneath, where for several minutes the contest continued upon the surface until both were fairly drenched. The males rarely meet in the mating season without fighting, even though no female may be near. Sometimes one of them turns tail at the outset; and the other at once giving chase, the pursuer and pursued, separated by a few inches only, go darting through the woods, winding, doubling, now careering away up among the tree-tops, now down over the water, sweeping close to the surface until the eye becomes weary with following their mad flight. During all this time the female usually busies herself with feeding, apparently entirely unconcerned as to the issue. Upon the return of the conqueror her indifference, real or assumed, vanishes, he receives a warm welcome, and matters are soon arranged between them.

The usual song of the Prothonotary Warbler sounds at a distance like the call of the Solitary Sandpiper, with a syllable or two added, —

a simple *peet, tweet, tweet, tweet*, giyen on the same key throughout. Often when the notes came from the farther shore of a river or pond we were completely deceived. On more than one occasion, when a good opportunity for comparison was offered by the actual presence of both birds at the same time, we found that at the distance of several hundred yards their notes were absolutely undistinguishable; nearer at hand, however, the resemblance is lost, and a ringing, penetrating quality becomes apparent in the Warbler's song. It now sounds like *peet, t-sweet, t-sweet, t-sweet*, or sometimes *tweet, tr-sweet, tr-sweet, tr-sweet*. When the bird sings within a few yards the sound is almost startling in its intensity, and the listener feels inclined to stop his ears. The male is a fitful singer, and is quite as apt to be heard in the hot noon tide or on cloudy days, when other birds are silent, as during the cool morning and evening hours. The ordinary note of alarm or distress is a sharp one, so nearly like that of the Large-billed Water Thrush (*Siurus motacilla*) that the slight difference can only be detected by a critical ear. When the sexes meet a soft *tchip* of recognition common to nearly all the Warblers is used. In addition to the song above described the male has a different and far sweeter one, which is reserved for select occasions,—an outpouring of the bird's most tender feelings, intended for the ears of his mate alone, like the rare evening warble of the Oven-Bird (*Siurus auricapillus*). It is apparently uttered only while on the wing. Although so low and feeble as to be inaudible many rods away, it is very sweet, resembling somewhat the song of the Canary, given in an undertone, with trills or "water-notes" interspersed. The flight during its delivery is very different from that at all other times. The bird progresses slowly, with a trembling, fluttering motion, its head raised and tail expanded. This song was heard most frequently after incubation had begun.

In general activity and restlessness few birds equal the species under consideration. Not a nook or corner of his domain but is repeatedly visited through the day. Now he sings a few times from the top of some tall willow that leans out over the stream, sitting motionless among the yellowish foliage, fully aware, perhaps, of the protection afforded by its harmonizing tints. The next moment he descends to the cool shades beneath, where dark, coffee-colored water, the overflow of the pond or river, stretches back among the trees. Here he loves to hop about on floating drift-wood, wet by the lapping of pulsating wavelets; now following up some

long, inclining, half-submerged log, peeping into every crevice and occasionally dragging forth from its concealment a spider or small beetle, turning alternately his bright yellow breast and olive back towards the light ; now jetting his beautiful tail or quivering his wings tremulously, he darts off into some thicket in response to a call from his mate ; or, flying to a neighboring tree-trunk, clings for a moment against the mossy bole to pipe his little strain or look up the exact whereabouts of some suspected insect prize.

This Warbler usually seeks its food low down among thickets, moss-grown logs, or floating débris, and always about water. Sometimes it ascends tree-trunks for a little way like the Black-and-white Creeper, winding about with the same peculiar motion. When seen among the upper branches, where it often goes to plume its feathers and sing in the warm sunshine, it almost invariably sits nearly motionless. Its flight is much like that of the Water-Thrush (either species), and is remarkably swift, firm, and decided. When crossing a broad stream it is slightly undulating, though always direct. Its food consists of insects, generally of such spiders and beetles as are found about water. Audubon positively asserts that he has discovered minute molluscoous animals and small land-snails in their stomachs.

The nesting of the Prothonotary Warbler affords the most interesting phase of its life history. Audubon's account of its nest, "fixed in the fork of a small twig bending over the water," seems in the light of our present knowledge open to serious doubts. At least, it is not the mode of nidification used in the places where it is best known at the present day. Mr. B. F. Goss of Neosho Falls, Kansas, first brought to light the fact that in that locality the bird invariably nested in holes of trees or buildings. Since his discovery of the first nest in 1863, others similarly situated have been found by Dr. Palmer and Mr. Robert Ridgway, at the Kiowa Agency, Indian Territory, and at Mount Carmel, Ill. The first nest collected the past season was found by Mr. Ridgway on April 27. It contained four fresh eggs. This was probably an exceptionally early date, as nearly a week elapsed before any other eggs were taken ; and, indeed, the greater proportion of a large number collected between May 8 and May 12 were freshly laid. At least forty nests were examined altogether, about one half of which contained eggs. To give an account of all the various situations in which these nests were placed, would entail a

description of nearly every conceivable kind of hole or cavity that can be found in tree-trunks. The typical nesting-site, however, was the deserted hole of the Downy Woodpecker or Carolina Chickadee. The height varied from two to fifteen feet, though the usual elevation was about four. If the cavity was old and broken out, or otherwise enlarged, it was far more apt to be chosen than a neater and newer one close at hand. The stump selected almost invariably stood in or projected over water, although, as above stated, it was oftentimes left high and dry after the eggs were laid.

Of the many exceptions to the above-described typical site, I will here notice only two of the most marked. A nest discovered May 8 was built in a sort of pocket-shaped cavity in the side of a large cypress stump. The hole descended vertically in the inside of the shell-like wall, the central heart of which had crumbled away. Another, found by Mr. Ridgway, was built in an extremely rotten snag which stood on the edge of a road; the eggs or sitting parent could easily be seen by any one riding by. This nest was several hundred yards away from water.

In the construction of the nest the female labors somewhat desultorily. Fresh green moss enters largely into its composition, and although this substance is readily obtained, a week is sometimes consumed in building the simple little affair. Most of the materials are gathered in the immediate vicinity from half-submerged logs or the nearest dry ground. The male almost always accompanies his partner on her trips to and from the nest, making a great show of hunting up choice bits of material, but apparently never succeeding in finding any to his mind. He usually precedes her on her return, enters the hole to investigate the condition of affairs, pops out his golden head to assure her with a soft chirp that all is well within, and then gives way to allow her to enter, clinging against the bark outside to cheer her labors with his song and await her reappearance. Sometimes, however, both birds remain inside together, although how much assistance the male renders in house furnishing I cannot say. Probably his presence is only tolerated, and he is perhaps often accused of being a nuisance.

The shape and size of the nest vary with that of the cavity in which it is placed. When the hole is deep, it is usually filled up to within four or five inches of the entrance. Thus the nest when removed presents the appearance of a compact mass of moss five

or six inches in height by three or four in diameter. When the cavity is shallow, it is often only scantily lined with moss and a few fine roots. The deeper nests are of course the more elaborate ones. One of the finest specimens before me is composed of moss, dry leaves, and cypress-twigs. The cavity for the eggs is a neatly rounded, cup-shaped hollow, two inches in diameter by one and a half in depth, smoothly lined with fine roots and a few wing-feathers of some small bird.

The number of eggs constituting a full set varies to an unusual degree; two nests were found, each of which contained seven eggs, while in another instance a nest, which from its position could not possibly have been molested, had only one, nearly ready to be hatched. Out of fifteen sets of eggs taken, two included seven eggs; three, six; three, five; four, four; two, three; and one, one egg. The average number is probably five or six. Seventeen specimens before me agree pretty well in size and general shape, nearly all being noticeably blunted at the smaller end. Two selected as extreme examples measure respectively  $.73 \times .59$  and  $.67 \times .58$ . The ground-color is clear, lustrous white, with a high polish. Eggs from different sets vary considerably in markings, but two types of coloration seem to prevail. In one, spots and dottings of dull brown with faint submarkings of pale lavender are generally and evenly distributed over the entire surface. In the other, bold blotches of bright reddish brown are so thickly laid on, especially about the larger ends, that the ground-color is in some instances almost entirely obscured.

In the hope of presenting to the reader's mind some slight idea of the general character and surroundings of the locality where the Prothonotary Warblers were found breeding in the greatest abundance, I close with a brief description of a visit, on May 11, to the Cypress Swamp. Towards the middle of the afternoon we reached Beaver Dam Pond, and embarked in an old weather-beaten dugout. Our guide, a half-breed Indian and a most accomplished woodsman, took his station in the stern, and with a vigorous shove upon his long push-pole sent the frail craft well out into the pond. Before us stretched a long, narrow sheet of water hemmed in on every side by an unbroken wall of forest trees. Around the margin grew a fringe of button-bushes, with a sprinkling of tall slender willows, while behind and above them towered the light-green feathery crests of numerous cypresses. The low shores were

in many places flooded with water for a considerable distance back into the woods, to where the land rose in broken ridges and the cypresses gave way to a growth of oaks, black-walnuts, lindens, and numerous other forest trees. The depth of the water, even in the centre of the pond, did not exceed five feet, and over the greater part of its extent rank grasses, yellow water-lilies, and other aquatic plants reared their tall stalks or broad leaves in such profusion, that everywhere, except immediately around the canoe, the eye rested upon what seemed a meadow of waving green. The few acres of comparatively open water were sprinkled with water-lilies (*Nymphaea odorata*) or thickly studded with the delicate, star-shaped blossoms of the *Cabomba caroliniana*, the moss-like stems of which extended in a perfect labyrinth beneath the surface. As we pushed our way through the denser growths, the stems yielded before the bow with a slight rustling sound. Wood Ducks and Hooded Mergansers rose on every side, while their broods of downy ducklings scuttled off among the water-plants, sometimes huddling close together, a dusky mass of bobbing little forms, at others, when closely pressed, separating and diving like water-sprites. Overhead, Buzzards were wheeling in graceful, interminable circlings, while in their nests upon the tops of some gigantic sycamores, a little back from the shore, stood a number of Great Blue Herons, their tall graceful forms boldly outlined against the sky. From the lower depths of the forest came innumerable bird voices,— the slow, solemn chant of the Wood Thrush, the clear, whistled challenge of the Cardinal, the sweet wild notes of the Louisiana Water Thrush, the measured *pter-dle, pter-dle, pter-dle* of the Kentucky Warbler, and the emphatic song of the Hooded Flycatcher. Higher up among the trees Woodpeckers rattled upon dead limbs, a Tanager sang at intervals, the Tufted Titmouse reiterated its monotonous *peto, peto*, and numerous Blue Warblers added their guttural little trills to the general chorus. From all along the pond edges came the Sandpiper-like song of the Prothonotary Warblers. As we advanced, the button-bushes gave way to stretches of black willows, which at the head of the pond formed the exclusive growth over an area of perhaps six acres. This tract had at one time evidently formed part of the pond, for as we pushed our canoe in among the trees we found the water scarcely shallower than in the open portions.

Although the willows grew rather thinly, the spaces between the

living stems were filled with stubs in every stage of decay, and perforated with countless Woodpecker-holes, most of them old, and long since given up by their original tenants. That a locality so favorable in every way had not been overlooked by the Prothonotary Warblers was soon evinced by the presence of the birds on all sides in numbers that far exceeded anything which we had previously seen, and careful search soon revealed a number of nests. Probably not less than twenty pairs were here breeding in close proximity. In the larger holes and among the branches were the nests of a colony of Grackles (*Quiscalus purpureus*), and a few Woodpeckers and Carolina Titmice were also nesting somewhere in the vicinity. As we returned down the pond late in the afternoon the sun was sinking behind the tree-tops. The dying breeze still agitated the crest of the forest, but not a breath rippled the still water beneath. The lonely pool rested in deep shadow, save at its upper end, where the slanting sunbeams still lighted up the group of willows, bringing out their yellowish foliage in strong relief against the darker mass behind. The arches of the grand old woods were filled with a softened, mysterious light, and a solemn hush and silence prevailed, broken only by the occasional hooting of a Barred Owl or the song of some small bird among the upper branches, where the rays of the setting sun still lingered. High in air, over the open space the Buzzards still wheeled and soared on easy wing. Ducks were scurrying about in all directions or plashing down among the lily leaves, and a heavy plunge in shore told where a startled otter had risen and disappeared. As the last rays of sunlight touched the top of a mighty sycamore that raised its towering head above its fellows, the Herons left their rookery and laboriously winged their way overhead to some distant feeding-ground. Long in the writer's memory will linger that last glimpse of beautiful Beaver Dam Pond.

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NOTES ON BIRDS OBSERVED AT MOUNT CARMEL, SOUTHERN ILLINOIS, IN THE SPRING OF 1878.

BY ROBERT RIDGWAY.

ALTHOUGH the spring seemed to have opened earlier than usual, the birds were, strangely enough, behindhand in their northward

migration, few of the truly migratory species being there on our arrival,—the 17th of April. At that date the woods were in nearly full leaf, the fruit-trees were nearly done blossoming (several kinds entirely so), and the wheat waist-high. Still there were no Catbirds, Orioles, Kingbirds, nor Tanagers, all of which ordinarily reach Mount Carmel by that time. It was nearly a week before these birds made their appearance; but after the full tide of migration set in there was little difference from other seasons, except the great dearth of transient Warblers, all of which were more or less rare, while many kinds, usually common, or even abundant, were not to be seen at all. Thus, there were no Black-throated Blue, Black-poll, Bay-breasted, Black-capped Green, nor Orange-crowned Warblers; only a single individual each of the Golden-winged, Cape May, Black-throated Green, Chestnut-sided, and Worm-eating Warblers was noticed, while other migratory species were unusually rare. No specimens of the Black-and-yellow Warbler were detected until the 25th of May, when a pair were shot in the Cypress Swamp. The following were the most abundant species of this family, named, approximately, in the order of their numbers: *Dendroica caerulea*, *Setophaga ruticilla*, *Oporornis formosus*, *Protonotaria citrea*, *Siurus auricapillus*, *Myiobius tristis*, *Helminthophaga pinus*, *H. peregrina* (migratory), *Siurus motacilla*, *Dendroica dominica albilora*, *D. aestiva*, and *Geothlypis trichas*.

**Thryomanes bewickii**. BEWICK'S WREN.—Very abundant, but confined entirely to dooryards. It was estimated by Mr. Brewster and myself that in Mount Carmel there was one pair of this Wren to about every two dwellings! The House Wren (*Troglodytes aëdon*) is entirely unknown there, the present species wholly replacing it.

?? **Helinaia swainsoni**. SWAINSON'S WARBLER.—In the Cypress Swamp a bird was several times noticed by Mr. Brewster and myself, which we both agreed must be this species. It was well seen on several occasions, and its song heard, while one specimen was shot, but, unfortunately, could not be found. It appeared to have habits somewhat similar to those of the Prothonotary Warbler, with a song more like that of a Water Thrush (*Siurus motacilla*), but weaker, more sprightly, and more varied.

**Helminthophaga pinus**. BLUE-WINGED YELLOW WARBLER.—Very abundant in old clearings in the bottom-lands.

**Dendroica dominica albilora**. YELLOW-THROATED WARBLER.—Common enough, but the most difficult to collect of all the Warblers, on account of its partiality to the tops of the tallest sycamore-trees, practically beyond the reach of small shot. The song strikingly resembles that

of the Indigo Bird in its tone, but is easily recognized from its peculiar modulation.

**Oporornis formosus.** KENTUCKY WARBLER.—One of the most abundant of the smaller birds, far exceeding even the Golden-crowned Thrush in numbers. In its general habits and manners it is much like the latter species, keeping on or near the ground. The nest is exceedingly difficult to find, since it is almost impossible to flush the female directly from it.

**Myiobius mitratus.** HOODED WARBLER.—Also an abundant species in certain parts of the bottoms, but only noticed in those localities where the switch cane (*Arundinaria tecta*) forms more or less of the undergrowth, over which trails the rough, bright green stems and foliage of a species of *Galium*, and, but less frequently, a low-growing or trailing *Smilax* (probably *S. valteri*). The nest is built with scarcely any attempt at concealment, in a low bush, from one to two feet from the ground.

**Stelgidopteryx serripennis.** ROUGH-WINGED SWALLOW.—More abundant than *Cotyle riparia*, but, so far as this locality is concerned, of entirely similar nesting habits. Each, however, generally breeds in colonies by itself.

**Collurio ludovicianus.** LOGGERHEAD SHRIKE.—Common. Although in previous papers I have given the white-rumped form (*excubitoroides*) as the Shrike of this portion of the country, all the specimens obtained during my recent visit were perfectly typical of the Southern race.

**Pyranga sestiva.** SUMMER REDBIRD.—Abundant, but almost entirely confined to the more open and dry woods of the uplands, where very common along the roadsides or among the oak or hickory trees standing in immediate proximity to farm-houses. Quite similar to *P. rubra* in general manners, but notes much stronger and more emphatic, the song far finer.

**Poocetes gramineus.** GRASS FINCH.—Breeds, but is rather uncommon.

**Chondestes grammacus.** LARK FINCH.—Common summer resident, partial to roadsides and fallow fields.

**Peuosa sestivalis.** BACHMAN'S FINCH.—Extremely local, and quite rare. Confined to old fields where dead trees are left standing.

**Euspiza americana.** BLACK-THROATED BUNTING.—Probably the most abundant of the *Fringillidae*, every meadow and grain-field being inhabited by a number of pairs. Most partial to clover-fields. Known usually as the "Little Field Lark," but, on account of its peculiar songs, sometimes as the "Dick-cissel."

**Pipilo erythrophthalmus.** TOWHEE; CHEWINK.—Abundant. Specimens obtained are absolutely typical of the species, none showing the least approach to *P. arcticus*.

**Sturnella magna.** MEADOW LARK.—Very abundant. The Larks of this district do not tend in any of their characters toward *S. neglecta*.

**Eremophila alpestris.** HORNED LARK. — Abundant in suitable localities. Found mostly on commons and about fallow fields.

**Cyanocitta cristata.** BLUE JAY. — One of the most numerous and generally distributed of all birds; also probably the least wary. As an evidence of these facts, it may be mentioned that the writer killed five Blue Jays in two successive shots, without the expectation of killing more than one at either time.

**Myiarchus crinitus.** GREAT-CRESTED FLYCATCHER. — The most abundant of the Flycatchers, and quite familiar, often breeding in boxes put up for the Martins and Bluebirds.

**Antrostomus carolinensis.** CHUCK-WILL'S-WIDOW. — A single specimen seen flying with some Night Hawks (*Chordeiles popetue*) late one evening, about the 20th of April. It is not an uncommon species, its notes being frequently heard. Strange to say, however, neither this species nor the Whippoorwill was once heard during our visit of six weeks' duration.

**Coccyzus americanus.** YELLOW-BILLED CUCKOO. — Extremely abundant, it being not unusual to hear the notes of half a dozen or more at the same time. Outnumbers *C. erythrophthalmus* in the proportion of about ten to one. Eggs of both species were found in the same nest!

**Melanerpes erythrocephalus.** RED-HEADED WOODPECKER. — Exceedingly abundant and very tame. By far the most numerous species of the family.

**Falco columbarius naevius.** DUCK HAWK. — This is by no means a rare bird in the heavy timber of the river bottoms. Three nests were found in the immediate vicinity of the town, and no doubt more could have been found in localities not explored. All were placed in cavities in the top of very large sycamore-trees, and were inaccessible. One of these trees was felled, however, the peculiar character of the base and decided inclination of the trunk from the perpendicular rendering this a comparatively easy matter. The swollen base of this tree was twenty-six feet in circumference, the cylindrical portion of the trunk itself, some seven feet above, being sixteen and one half feet around. The base was hollow, and had been reduced by fire to an average thickness of less than a foot, while the axis of the tree leaned some thirty degrees from the perpendicular. It therefore required only the severing of the wall on the side of tension, for a distance of four or five feet, to destroy the equilibrium of the tree, which soon came down with a terrific crash. Measurements with a tape-line showed the nest to have been eighty-nine feet from the ground, its location being a shallow cavity, caused by the breaking off of the main limb, the upper part of which projected over sufficiently to form a protection from the sun and rain. This limb was four feet in diameter; the total height of the tree, although the whole top had been blasted by storms, was one hundred and fifteen feet, so that its original height must

have been not less than one hundred and fifty feet. Four full-feathered young were taken from the nest, only one of them being killed by the fall, while one was entirely uninjured. The female parent had been shot a few days before.

*Ictinia mississippiensis*. MISSISSIPPI KITE.—This species is much less common in the vicinity of Mount Carmel than in the prairie districts. Several were seen about the river, however, as well as on the border of Washburne Pond, in the Cypress Swamp.

*Cathartes atratus*. BLACK VULTURE.—Several solitary specimens were seen in the Cypress Swamp, where it was evident from their actions they were breeding.

*Ibis alba*. WHITE IBIS.—An addition to the fauna of the State. A flock of seven or eight individuals, all in the gray plumage of the young, seen flying along the river about the 8th of May.

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THE NEST AND EGGS OF THE YELLOW-BELLIED FLY-CATCHER (*EMPIDONAX FLAVIVENTRIS*).

BY H. A. PURDIE.

Of the breeding habits of this bird published accounts are somewhat meagre and unsatisfactory. In Baird, Brewer, and Ridgway's "History of North American Birds," Dr. T. M. Brewer states that he found a nest of this species at Grand Menan placed in the fork of a low alder-bush. It was built loosely of soft bark-strips, lined with light-colored grass, and much resembled the nest of the common Indigo Bird. Other nests collected at Halifax were in low bushes and composed of "stubble." The eggs were chalky-white, unspotted, and more oblong than those of the Least Flycatcher (*Empidonax minimus*). Eggs, however, found by Mr. G. A. Boardman at Calais, Me., were dotted with reddish-brown. Dr. Coues, in "Birds of the Northwest," simply says: "The egg of *flaviventris* is pure white, unmarked, and not distinguishable from that of *E. minimus*." But he writes me, "I know nothing of the nest and eggs of *E. flaviventris*, but what I have read." In "Ornithology of the Clarence King Survey" (Vol. IV, p. 544) Mr. Ridgway, in a foot-note to the Western Yellow-bellied Flycatcher (*E. difficilis*), remarks: "It is with little hesitation that we consider this bird as distinct specifically from *E. flaviventris*. Not only are there very conspicuous and constant differences in proportions and colors (especially the

former), but numerous observers have noticed remarkable and important peculiarities in the nesting habits, the present species almost invariably building its nest in cavities, either of stumps, trees, or rocks, or on beams inside of buildings, — a habit not yet noticed in *E. flaviventris*, nor, indeed, in any other species of the genus." That at least the nesting habits of the two are not always different, I think the following will show.

On a collecting trip made by Mr. Ruthven Deane and myself to Houlton, Aroostook County, Me., during the second and third weeks in June of this year, we were fortunate enough to secure the much-desired nest and eggs of the Yellow-bellied Flycatcher. For its possession we are under obligations to Robert R. McLeod, Esq., and to one of his collectors, Mr. James Bradbury, who discovered the nest, both surrendering all claim to the prize, but desirous that a description should be given for the benefit of all interested.

Mr. Bradbury informed us that he had found, on June 15, a nest unknown to him with one egg. On the 18th he conducted us to the edge of a wooded swamp, and, pointing to the roots of an upturned tree, said the nest was there. We approached cautiously, and soon saw the structure and then the sitting bird, which appeared to be sunken in a ball of green moss. Our eager eyes were within two feet of her, thus easily identifying the species, when she darted off, but, to make doubly sure, Mr. Deane shot her. There was no mistake; we at last had a genuine nest and eggs of the Yellow-bellied Flycatcher. A large dwelling it was for so small and trim a bird. Built in and on to the black mud clinging to the roots, but two feet from the ground, the bulk of the nest was composed of dry moss, while the outside was faced with beautiful fresh green mosses, thickest around the rim or parapet. The home of the Bridge Pewee (*Sayornis fuscus*) was at once suggested. But no mud entered into the actual composition of the nest, though at first we thought so, so much was clinging to it when removed.\* The lining was mainly of fine black rootlets, with a few pine-needles and grass-stems. The nest gives the following measurements: depth inside, one and one half inches; depth outside, four and a quarter inches; circumference inside, seven and a quarter inches.

The eggs, four in number, were perfectly fresh, rounded oval in

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\* Dr. J. G. Cooper has said that the Western bird uses mud for the shell of its nest. He has, however, written me that he was mistaken, and that earth is not employed.

shape, and of a beautiful rosy-white tint, well spotted with a light reddish shade of brown. They closely resemble the eggs of *E. difficilis* I have from California, and other sets of eggs of that bird I have lately seen. The nest and contents are now in Mr. Deane's collection. It will be seen that the whole affair was not unlike the descriptions given of the nest and eggs of *E. difficilis* by Dr. J. G. Cooper of Haywood, Cal.

The nests and eggs mentioned by Dr. Brewer differ so much from those here described that it seems reasonable to suppose that there was some error of identification in the nests found by him as cited above, so great is the variation presented between his nests and eggs and ours; for it seems hardly probable that this Flycatcher should be so very inconstant, both as to the materials and situation of the nest, and as to whether it lays spotted or unspotted eggs. In the National Museum at Washington there are three sets of eggs accredited to *E. flavigaster*. The eggs of one of these sets are spotted, those of the other two are not, and these latter are strongly suggestive of those of the Least Flycatcher; so write me Messrs. Robert Ridgway and H. W. Henshaw.

As no accounts of the breeding of *E. difficilis* have yet appeared in any ornithological works, the following references to the nesting habits may be useful: Proc. Cal. Acad. Sci., Vol. VI, p. 199, Dec., 1875; Am. Nat., Vol. X, p. 93, Feb., 1876; The Naturalist and Fancier, Grand Rapids, Mich., Vol. I, p. 43, Nov., 1877.

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#### A LIST OF BIRDS OBSERVED AT COOSADA, CENTRAL ALABAMA.

BY NATHAN CLIFFORD BROWN.

COOSADA is a little station on the North and South Alabama Railroad, ten miles north of Montgomery. The population, consisting of planters and their attendant negroes, is sparse, and nowhere attains sufficient density to produce a regular village. The country is rather flat, occasionally rolling slightly, and in its uncultivated portions is mostly covered with a dense growth of pines of various species. There are a few dry groves of oak and "black jack," but the hard-wood trees are principally confined to the creek bottoms and margins of swamps, where they flourish in the typical Southern luxuriance and variety, interspersed with cane and overrun by

numerous parasitical vines. Within two miles of the railway station runs the Alabama River, affording, with its parent streams, the Coosa and Tallapoosa, and its tributary creeks and "branches," the most productive country for the ornithologist.

The following list embodies the results of my observations at Coosada, between the dates of January 21 and April 30, 1878, with the hearty and efficient co-operation of Mr. J. H. Bond, of Portland, during the first nine weeks of my stay. It has not been prepared with a view to presenting a complete catalogue of the birds inhabiting even the limited extent of country under consideration. Such was the remarkable lateness of the migration, that additional species were detected up to the very day of my departure, and I have no doubt that others subsequently made their appearance. Whether further investigations in the locality would prove the occurrence there of such missing members of the supposative local fauna as *Cyanospiza ciris*, *Helmitherus vermivorus*, *Helminthophaga pinus*, etc., is, therefore, to some extent a matter of doubt.

1. **Turdus migratorius**, L. ROBIN.—An abundant winter visitor, becoming uncommon towards the middle of April, and disappearing before the end of that month. The males were songless during their stay.
2. **Turdus mustelinus**, Gm. WOOD THRUSH.—Arrived April 13 in full song. They were never very common, inhabited only swampy thickets and hard-wood groves, and were extremely shy.

3. **Turdus pallasi**, Cab. HERMIT THRUSH.—Common and generally distributed up to within a few days of my departure. I was surprised, in this southern latitude, to find that the males became musical as spring advanced. On March 16 I heard the first song, and during the following three weeks it was one of the commonest wood sounds.

4. **Mimus polyglottus**, (L.) Boie. MOCKING-BIRD.—Abundant resident. I heard the first song February 25,—a week after the birds began to sing in Montgomery. Two weeks later I observed several pairs desultorily at work on their nests, but, with the exception of a single complement found on the 12th of April, discovered no eggs until about April 21.

After a brief sojourn at Coosada, I came to regard this bird with intense dislike, on account of its extreme quarrelsomeness. Those in the immediate vicinity of my lodgings were almost constantly employed in driving other birds from the neighborhood. Upon one occasion, a Robin sitting quietly in a tree over my head was so fiercely attacked by a Mocking-bird that he fell almost lifeless at my feet. A friend rescued him from further injury, and after the bird revived gave him his liberty; he had scarcely flown a dozen yards, however, before he was again savagely set upon by a Mocking-bird, and escaped only through his greater power of wing.

5. **Mimus carolinensis**, (L.) Gray. CATBIRD.—Arrived April 13. Did not become common, and was not heard to sing.

6. **Harporhynchus rufus**, (L.) Cab. BROWN THRUSH.—A common resident, well known by its *alias* "Thrasher." The males began to sing about the 1st of April, and by the 25th of that month the females had deposited their eggs.

7. **Sialia sialis**, (L.) Haldeman. BLUEBIRD.—Common resident. During the winter they were particularly abundant, sometimes associating with the various small Finches and Warblers, sometimes forming small flocks by themselves. There was no regularity in the breeding of different pairs: two nests examined on April 22 contained respectively four fresh eggs and a brood of young several days old.

8. **Regulus calendula**, (L.) Licht. RUBY-CROWNED KINGLET.—Numerous during the entire extent of my stay. I first heard their song on the 8th of March, but after that date the sweet, fervid little strain filled the woods everywhere.

9. **Regulus satrapa**, Licht. GOLDEN-CRESTED KINGLET.—Common winter visitant. Unlike the preceding species, which was often met with singly, this bird was invariably found associating with others of its kind, and with Creepers, Titmice, and Nuthatches. Disappeared about the first week in April.

10. **Polioptila caerulea**, (L.) Scl. BLUE-GRAY GNATCATCHER.—Arrived March 25, and soon became very common. They seemed to affect no particular kind of growth, but were everywhere equally abundant. They are most earnest and persevering songsters: in their frequent practice of singing on the wing, they fairly rival the Bobolink's ardor, and had their melodious, "mocking little strain" (as Mr. Brewster has called it) somewhat more volume, it would certainly be an unusually fine performance.

11. **Lophophanes bicolor**, (L.) Bp. TUFTED TITMOUSE.—A common resident, but of quite irregular occurrence during the winter. At times, during that season, none were to be found for several days, after which they would again make their appearance, generally in company with the social Chickadees, Nuthatches, etc. About February 20 they became less numerous, and were soon met with only in pairs. I did not succeed in finding a nest.

12. **Parus carolinensis**, Aud. CAROLINA TITMOUSE.—Not a very common resident. Instead of the tame, unsuspicious bird I had been led to expect, they generally proved very shy indeed. More than once they completely baffled all my attempts at capture. The notes of this species have generally been described as less powerful than those of its Northern prototype. According to my experience, this is true only to a certain extent; certainly not so of the familiar *chick-a-dee-dee*, which was invariably uttered by the Southern bird as loudly and emphatically as I have ever heard it at the North. I failed to find a nest, although the birds appeared to be engaged in building about the second week in April.

13. *Sitta carolinensis*, (Gm.) Lath. **WHITE-BELLIED NUTHATCH.** — Rather uncommon during the winter, and occasionally seen or heard up to the time of my departure. They exhibited a preference for the pine woods. The peculiar song of the male I first heard about the middle of March.

14. *Sitta pusilla*, Lath. **BROWN-HEADED NUTHATCH.** — An abundant resident. In the winter, when they were particularly numerous, they associated in bands of from six to twenty individuals, and were found everywhere, — in the tops of the tallest forest trees and amongst the scattered pine saplings which have sprung up in once cultivated fields. They were always full of life and activity, not only destroying their insect prey with great industry, but frequently chasing each other about in pure excess of vitality. I do not think I ever saw one employed in silence for a minute at a time. While busily in search of food they have a subdued, conversational chatter which almost exactly resembles the notes usually uttered by the Goldfinch when similarly employed. Rather curiously, the two species have another call in common: the most frequent cry of the Nuthatch is remarkably like the Goldfinch's meditative *béry-béh*, — indeed, I have sometimes mistaken one for the other. Both sexes of the present bird have several other call-notes, all of which are characterized by a certain reedy harshness rendering them quite unlike the usual utterances of the two Northern species of the genus.

About the beginning of March the birds began to separate into pairs, and by the middle of that month had generally selected their nesting sites and commenced the work of excavating. Rotten pine stubs afforded the favorite situations, and nine tenths of the nests I found were within six feet of the ground. I opened nests at intervals up to the time of my departure, and found them occupied by one, sometimes by both of the owners, but met with no eggs until April 22; these (four in number) were placed in a natural cavity in a telegraph-pole. Another nest examined on the same day was not quite ready for the eggs.

15. *Certhia familiaris*, L. **BROWN CREEPER.** — Rather common during the winter, associating with other small birds of similar habits. They were most numerous about the third week in March, and at this time sometimes went in flocks by themselves, occasionally as many as a dozen together. On the advent of warm weather, in April, they gradually disappeared.

16. *Thryothorus ludovicianus*, (Lath.) Bp. **GREAT CAROLINA WREN.** — Common resident, inhabiting only the tangled growth of swamps and water-courses. Generally found in small flocks during the winter. They were mated by the last of February, but, apparently, were not engaged in nest-building until at least a month later. The males sang through the winter, but not so frequently as after mating.

17. *Thryothorus bewicki*, (Aud.) Bp. **BEWICK'S WREN.** — Only two specimens taken: one by myself, February 7, amongst the débris of

fallen trees, in a partially cleared field ; one by Mr. J. H. Bond, February 16, by the roadside, in piny woods ; both silent, and much less active than the preceding species.

18. *Anorthura troglodytes* var. *hyemalis*, (Vieill.) Coues. WINTER WREN. — Not very common winter visitant, and almost invariably seen in company with the Carolina Wrens. It was the first of the winter birds to disappear. None were met with after about February 20.

19. *Cistothorus stellaris*, (Licht.) Cab. SHORT-BILLED MARSH WREN. — I captured a single pair in an old rice-field, March 21.

20. *Anthus ludovicianus*, (Gm.) Licht. TITLARK. — Common during the winter. Stragglers remained till the last of March.

21. *Mniotilla varia*, (L.) Vieill. BLACK-AND-WHITE CREEPER. — First seen on March 13 ; soon became common and generally distributed. The males sang from the time of their arrival.

22. *Parula americana*, (L.) Bp. BLUE YELLOW-BACKED WARBLER. — Half a dozen shy individuals met with, the first on March 25.

23. *Protonotaria citrea*, (Bodd.) Bd. PROTHONOTARY WARBLER. — Arrived April 12, in full song. After April 20, specimens were seen almost every day, but they never became common. Their haunts were exclusively swamps and the dense hard-wood growths of the water-courses. I found them always active, restless, and noisy. The song is stridulous and piercing, and suggests that of the Black-and-white Creeper, but is more detached and much more strongly accented ; it is indicated very well by the syllables, *eh-wiss'*, *eh-wiss'*, *eh-wiss'*, *eh-wiss'*, *eh-wiss'*, *eh-wiss'*. A female dissected April 23 contained eggs almost ready for deposition ; no nests, however, were found.

24. *Helmintherus swainsoni*, (And.) Bp. SWAINSON'S WARBLER. — On April 12, while forcing my way through the dark, rank forest which lies about the source of Coosada Creek, I caught the final notes of an unknown song uttered close at hand. Instantly seating myself on a fallen tree, I awaited its repetition. The woods immediately about me were quite dry and comparatively deserted by birds, but along the neighboring creek many Vireos, Thrushes, and Swamp-Warblers were producing such a babel of sounds that I feared the voice of my unknown songster might escape me. After the lapse of a few minutes, however, a bird emerged from a thicket within a few yards of me, where he had been industriously scratching amongst the fallen leaves, flew into a small sapling, and gave utterance to a loud, ringing, and very beautiful song. Seen in the dim light of the woods, he bore a decided resemblance to the Louisiana Water Thrush, and his song might almost have passed for an exceptional performance by that bird ; but I at once suspected his true identity, and in a few seconds held in my hand the lifeless body of a male Swainson's Warbler.

During the succeeding nine days I repeatedly and most carefully searched this tract of woods and other localities apparently equally favor-

able, without detecting additional specimens. Finally, April 22, while exploring a slough near the union of the Coosa and Tallapoosa Rivers, I met with two more males. Piloted by their song, I readily approached them, but, unfortunately, lost one, badly wounded, in the impenetrable cane.

I was impressed by the absorbed manner in which this bird sings. Sitting quietly upon a limb of some small tree, he suddenly throws back his head and pours forth his notes with the utmost fervor and *abandon*. During his intervals of silence he remains motionless, with plumage ruffled, as if completely lost in musical reverie.

25. *Helminthophaga celata*, (Say) Bd. ORANGE-CROWNED WARBLER.—Only two specimens noted. My attention was attracted to the first in a cluster of small oak-trees by the roadside, by his loud call-note, which, to my ear, was indistinguishable from that of the Cardinal Red-bird. This was on February 12. The second specimen I startled from a swampy thicket, April 15.

26. *Dendroica aestiva*, (Gm.) Bd. YELLOW WARBLER.—Arrived April 26, in song. But few seen.

27. *Dendroica caerulescens*, (L.) Bd. BLACK-THROATED BLUE WARBLER.—A single male found singing in thick, swampy woods, April 26.

28. *Dendroica coronata*, (L.) Gr. YELLOW-RUMPED WARBLER.—Very numerous up to about the middle of April. Stragglers were occasionally seen towards the end of the month. The males began to sing on April 12.

29. *Dendroica discolor*, (Vieill.) Bd. PRAIRIE WARBLER.—Rather common after March 27, frequenting the edges of swampy woods. The ovary of a female dissected about the middle of April was but slightly developed, and I observed no signs of nest-building during my stay.

30. *Dendroica dominica*, (L.) Bd. YELLOW-THROATED WARBLER.—A single male observed March 13; no more seen until after March 22, after which they were not uncommon up to April 4. At this date all disappeared, and for nearly three weeks none were to be found. During the week before my departure I met with two or three solitary males. I saw no females. Although generally frequenting the dry pine woods, this bird occasionally visits swampy growths of deciduous trees.

31. *Dendroica palmarum*, (Gm.) Bd. YELLOW RED-POLL WARBLER.—Of irregular occurrence during the entire extent of my stay. Specimens taken in the winter and early spring represent the newly separated form *hypochrysea*; those taken later, the variety *palmarum*. On April 13 the males began their simple song, and thereafter both sexes were more uniformly and abundantly distributed.

32. *Dendroica pinus*, (Wils.) Bd. PINE-CREEPING WARBLER.—A very abundant resident. For the first three or four weeks of my stay I found them exclusively in the fields, forming large flocks with Bluebirds and several kinds of Sparrows; and it was not until the latter part of

February that they frequented the woods commonly. The females deposited their eggs about the last of March, judging from the appearance of specimens dissected at that time. Young were flying generally by April 27.

Throughout the six weeks of winter which I spent at Coosada the Pine Warblers were uninterruptedly tuneful. No other winter birds sang so continuously; even the Carolina Wrens and Tufted Titmice were often chilled into silence on raw, sunless days in February; but, however cold (and midwinter in Alabama is much less tropical than is popularly supposed, frost often crusting the ground, and ice skimming ponds and sluggish streams), I never failed to hear the notes of these indefatigable little songsters.

33. *Siurus motacilla*, (Vieill.) Coues. **LARGE-BILLED WATER THRUSH.** — Abundant after March 13, in swampy localities.

34. *Oporornis formosus*, (Wils.) Bd. **KENTUCKY WARBLER.** — Arrived April 9, and soon became common, frequenting the same places as the preceding species. I did not find them the active bird they have generally been described, but rather leisurely in their movements. Nor do they, as has been asserted, always walk when upon the ground, but frequently move about by the hopping, or rather jumping, motion common to most small birds. They were apparently not breeding at the time of my departure.

35. *Geothlypis trichas*, (L.) Cab. **MARYLAND YELLOW-THROAT.** — On February 7, Mr. Bond reported having seen a solitary male in a dense swamp; but it was not until the 5th of March that the species appeared in numbers. Thereafter they were common during my stay.

36. *Ioteria virens*, (L.) Bd. **YELLOW-BREASTED CHAT.** — Arrived April 20; became common a week later.

37. *Myiobius mitratus*, (Gm.) Aud. **HOODED WARBLER.** — Rather the most numerous summer resident of this family. The males arrived March 28; the females, about two weeks later. A female taken April 22 was on the point of laying.

38. *Setophaga ruticilla*, (L.) Sw. **REDBSTART.** — First seen April 19. Not very common. No females observed.

39. *Pyranga rubra*, (L.) Vieill. **SCARLET TANAGER.** — But one specimen observed; a female, in swampy woods, April 25.

40. *Pyranga sicciva*, (L.) Vieill. **SUMMER REDBIRD.** — First specimen noted March 31; became common April 8. Apparently not breeding at the time of my departure. Found almost exclusively in pine woods.

(To be continued.)

## DESCRIPTIONS OF THE FIRST PLUMAGE IN VARIOUS SPECIES OF NORTH AMERICAN BIRDS.

BY WILLIAM BREWSTER.

## IV.\*

78. *Agelaius phoeniceus*.

*First plumage*: female. Above dark seal-brown : every feather of the crown, nape, and interscapular region, with the greater and middle wing-coverts, primaries, secondaries, and tertaries, edged and tipped with brownish-fulvous. Beneath light yellowish-brown, thickly and broadly streaked everywhere with dull black. Sides of throat and head, including a considerable space around the eye, bare skin (of a brownish orange-color in the dried specimen), with a few scattering pin-feathers. From a specimen in my collection obtained at Cambridge, Mass., June 24, 1872. Males in first plumage before me differ but little from the individual above described. All have the bare spaces on the sides of the throat, although these are probably feathered before the first moult is begun. A male in transitional dress (collected at Ipswich, Mass., July 15, 1874), with the head fully feathered, has the throat dull brownish-yellow, with a strong tinge of the same color on the breast. The wing and tail feathers are renewed during the first moult.

*Autumnal plumage*: young male. Crown dark brown, with a faint rusty edging upon each feather ; nape brownish-yellow, with a rusty tinge, finely spotted with dark brown ; interscapular region, and a broad outer edging upon the secondaries and tertaries, deep dull reddish-brown, each feather having a broad V-shaped mark of dull black. Rump glossy black, every feather edged with fulvous ashy ; shoulder dull red with black spotting ; middle coverts fulvous ; greater coverts tipped with the same color. Superciliary stripe brownish-yellow. A space anterior to and beneath the eye dusky black. Entire under parts black, each feather upon the abdomen edged broadly with pale ashy, elsewhere with yellowish-brown. The light edging of the feathers gives the under parts a conspicuously scutellate appearance. From a specimen in my collection taken at Cambridge, Mass., October 6, 1876. This plumage (although not to my knowledge previously described by writers) is the characteristic one of the young in autumn. I am unable to state if the adult male retains his uniform black coloring at all seasons. A remarkable variation from the typical plumage is afforded by a fine adult male in my cabinet, which has a broad

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\* For Parts I, II, and III, see this volume, pp. 15-28, 56-64, 115-128.

crescentic patch of pale yellow tinged with rose-color upon the breast. Nor is this specimen unique, for I have seen several others with a similar but less conspicuous mark. It probably represents an exceptionally high condition or phase of ornamentation, like the commoner one of scarlet or yellow wing-markings, in the Scarlet Tanager (*Pyranga rubra*). Very old females of *A. phœniceus* have the throat a delicate peach-color; illustrated by several specimens in my cabinet from Nantucket and Ipswich, Mass.

**79. *Icterus baltimore*.**

*First plumage*: Top of head, nape, and interscapular region brownish-olive; wing-bands pale fulvous; rump, breast, anal region, and crissum olivaceous-yellow; throat dull yellow; abdomen pale buffy-yellow; patches of ash on the sides. From a specimen in my collection shot in Cambridge, Mass., July 18, 1874. Autumnal adults have the orange-red richer and clearer than in spring, and the wing-quills much more broadly and conspicuously edged with white. Neither wing nor tail feathers are changed during the first moult.

**80. *Scolopachus ferrugineus*.**

Several young birds of both sexes shot at Upton, Me., August 5, 1873, have apparently nearly completed the first moult; but one, a male, has the head still covered with the feathers of the first plumage, which are of a uniform plumbeous color. All are moulted the wing and tail feathers. In each specimen a worn central pair of rectrices projects about three inches beyond the others, which are of a uniform length, and evidently just sprouting. Other individuals seen at the same time were conspicuously characterized in the same way, all presenting, when flying, the appearance of birds with long forked tails, the elongated central feathers being slightly spread apart.

**81. *Quiscalus purpureus*.**

*First plumage*: male. Uniform dark plumbeous, darker above, lighter and with a faint brownish edging on the feathers beneath. Sides of throat and a large space around the eyes completely bare of feathers. From a specimen in my collection obtained at Upton, Me., June 22, 1873. Both wing and tail feathers are replaced during the first moult.

**82. *Tyrannus carolinensis*.**

*First plumage*: male. Above uniform dark sooty-brown, with a scarcely appreciable lighter edging on the feathers of the nape. No concealed red on the crown. Wing-bands yellowish-white. Breast soiled white, with a band of ashy-white across the breast. From a specimen in my collection shot at Upton, Me., July 24, 1872.

**83. *Sayornis fuscus*.**

*First plumage*: female. Crown and nape dark sooty-brown. Rest of

upper parts brownish-olive, shading into reddish-olive on the rump. Wing-bands and tips of rectrices ferruginous; secondaries edged with yellowish-olive. Throat, breast, and sides olivaceous-drab, darkest on sides of breast. Abdominal and anal regions soiled white, with a yellowish tinge. From a specimen in my collection taken at Cambridge, Mass., July 13, 1874.

**84. *Contopus borealis.***

*First plumage:* male. Above olivaceous-plumbeous, darkest upon the crown; wing-bands ferruginous; secondaries edged with pale fulvous. Sides of throat, breast, and body dark plumbeous, with a brownish tinge; central line from base of bill to crissum — partly interrupted upon the breast by the encroachment of the darker color of the sides — strong creamy-buff. Lower mandible black, with a limited area of brownish-orange at the base. From a specimen in my collection shot at Rye Beach, N. H., July 24, 1872. Autumnal specimens in my collection have the lower mandible black, the under parts much more strongly tinged with yellow than the adult, and the wing-coverts faintly tipped with ferruginous.

**85. *Contopus virens.***

*First plumage:* male. Above olive, with a brownish cast, the feathers of the crown and interscapular region with a faint edging of pale fulvous, those upon the nape having a much broader one of dull ash, producing a well-defined band or collar. Wing-bands light reddish-brown. Beneath, with sides of throat, breast, and body, light olivaceous-ash; rest of under parts pale sulphur-yellow. From a specimen in my collection taken at Upton, Me., August 8, 1874. The young in autumnal plumage differ from adults in having the wing-bands pale fulvous, the under parts of a slightly deeper yellow.

**86. *Empidonax acadicus.***

*First plumage.* Above nearly pure olive, with indistinct narrow transverse bands of darker. Wing-bands pale reddish-brown. Under parts soiled yellowish-white, with an olivaceous cast on the sides of the breast. From a specimen in my collection shot by Dr. J. M. Wheaton, at Columbus, Ohio, June, 1876.

**87. *Empidonax pusillus trauri.***

*First plumage:* male. Above olive-brown, the feathers of the crown with darker centres. Wing-bands light reddish-brown. Throat, breast, and sides ashy, tinged with olive upon the breast and sides. Abdomen, anal region, and crissum pale sulphur-yellow. Distinguishable from *E. acadicus* in first plumage by the darker color of the upper parts, especially of the crown, and by the entire absence of the narrow transverse bands upon the back. From a specimen in my collection shot at Upton, Me., July 21, 1874.

**88. *Empidonax minimus*.**

*First plumage*: male. Similar to the adult, but with a stronger olive cast, and a faintly indicated collar of ashy-brown across the nape. Wing-bands light reddish-brown. Beneath almost precisely similar to the adult; with perhaps a slightly stronger yellowish cast upon the abdomen and crissum. Distinguishable from *E. trailli* and *E. acadicus* in corresponding stages by the decidedly paler and less yellowish under parts; especially by the nearly clear ashy on the sides of the breast. From a specimen in my collection taken at Cambridge, Mass., July 2, 1872. Other specimens in first plumage before me differ little from the one above described, but autumnal specimens, singularly enough, are much yellower below and more olivaceous above.

**89. *Empidonax flaviventris*.**

*First plumage*: male. Above uniform yellowish-olive. Beneath dull yellow, with a brownish cast, tinged strongly with olive upon the throat, breast, and sides. Wing-bands brownish-yellow. Altogether very similar in general appearance to the adult. From a specimen in my collection shot at Upton, Me., August 4, 1874.

**90. *Chordeiles virginianus*.**

*First plumage*. Above dull black, irregularly marbled everywhere with reddish fawn-color and pale rusty. All the feathers are tipped, edged, and barred with the lighter colors, the black appearing for the most part in subterminal spots or blotches. The primaries (which are but just sprouting) are black, broadly tipped with pale rusty. Under parts clothed thickly with fluffy whitish down, beneath which, on the breast and sides, true feathers of a dull white barred with dark brown are beginning to appear. From a specimen in the cabinet of Mr. N. C. Brown, taken at Deering, Me., June 29, 1875. It seems probable that young of this species — and perhaps of the whole family, like those of the *Tetraonidae* and some others — pass through a stage of plumage previous to the usual primal one. The specimen above described is, strictly speaking, in process of transition between the two, and still retains patches of the soft whitish down which must have constituted its entire covering at an earlier period.

**91. *Coccyzus erythrophthalmus*.**

*First plumage*: female. Above lustrous plumbeous-ashy, feathers upon the crown, nape, and anterior part of the back, narrowly tipped with pale ashy; those of the interscapular region and rump, together with the scapulars and upper tail-coverts, more broadly so with ashy-white. Outer edges of quills light rufous. Beneath delicate pearl-gray, lightest on the abdomen, slightly tinged with pale brownish-yellow on the throat and breast. From a specimen in my collection shot in Lincoln, Mass., June 17, 1871. Autumnal specimens (probably only the young birds) differ from spring adults in having the naked skin around the eye yellow instead of red.

**92. *Picus villosus*.\***

*First plumage*: male. Forehead spotted thickly with white; crown dull scarlet, each feather subterminally spotted with white; nuchal crescent entirely wanting. Rest of upper parts dull dead black, marked and spotted with white as in the adult. Lores yellowish-white, maxillary line very faintly indicated. Beneath soiled yellowish-white. From a specimen in my collection shot at Upton, Me., August 1, 1874. The first plumage of this species is exceedingly evanescent. The scarlet patch upon the crown is soon lost, the feathers dropping out one by one; a few scattered ones, however, usually remain until the feathers of the nuchal crescent have begun to appear.

A female in first plumage (Upton, Me., August 20, 1874) differs so little from adults as scarcely to require a detailed description. The black of the upper parts, as in the male just described, is of a dead or plumbeous cast. The crown is entirely unspotted. I have, however, seen specimens which had the forehead spotted with white.

**93. *Picus villosus harrisi*.**

*First plumage*: male. Differs from the adult only in having the forehead spotted with white, and a patch of scarlet covering the crown. From a specimen in my cabinet collected by Mr. C. A. Allen at Nicasio, Cal., June 8, 1875.

**94. *Picus pubescens*.**

*First plumage*: male. Forehead and nape thickly spotted with white. Crown deep scarlet; no red on nape; rest of upper parts marked as in the adult, but the black duller. Beneath ashy-white, thickly streaked on the sides of the breast and body with dusky; on the sides of the abdomen these dusky markings assume the character of broad though poorly defined transverse bars. From a specimen in my cabinet collected at Upton, Me., August 14, 1874. Several other young males show a considerable amount of variation in the character and extent of the dusky markings beneath. In one or two the streaks are nearly continuous across the breast and abdomen. A very young male (Upton, August 1, 1874) has the forehead and

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\* As stated elsewhere, the young of most, if not all of the Woodpeckers, regularly moult the wing and tail feathers with the rest of the first plumage. No exceptions to this rule occur among large series of the common North American species examined, and it may probably be found to hold good among all excepting, perhaps, some highly specialized groups. Another peculiar feature in the early development of the species most thoroughly investigated, and one which is perhaps common to all the members of this family, is the fact that a certain proportion of the females in first plumage possess to a greater or less degree the adornments which in more advanced stages are peculiar to the males alone, and which are lost with the first moult. Marked examples of this are afforded by young females of *Colaptes auratus*, *Picus pubescens*, and others, of which detailed descriptions are given in the text.

nappe dull, unspotted black, and a decided greenish-yellow tinge to the white both above and below.

*First plumage*: female. Forehead slightly spotted with white; *crown-patch* scarlet, exactly as in the male. Nape unspotted. Beneath brownish-white, barred obscurely upon the flanks and spotted continuously across the breast with dusky. From a specimen in my collection obtained by Mr. W. D. Scott, at Coalburgh, W. Va., July 25, 1872. Another specimen before me (Upton, Me., August 13, 1874) has the forehead and occiput, with a narrow median line connecting them, thickly spotted with white, but no scarlet. Still a third, in the collection of Mr. C. J. Maynard, has the crown irregularly patched with scarlet feathers. The sex of all these specimens was determined by the most careful dissection.

#### 95. *Picoides arcticus*.

*First plumage*: male. Similar to the adult, but with the yellow crown-patch rather more restricted; the black of the upper parts duller; the white beneath tinged with brownish, and the bars upon the sides dusky instead of black. A few feathers upon the lower interscapular region are spotted with white. From a specimen in my collection shot at Upton, Me., July 31, 1874. Unfortunately no females in strictly first plumage are available for comparison. A moulting specimen, however, which has acquired most of the second or autumnal plumage (Upton, Me., August 10, 1874), shows a patch of thickly sprinkled yellow feathers upon the crown, while another, taken as late as September 5, still retains several similar feathers. There can be little doubt but that among a good series of young females in first plumage many would be found to occur with yellow crown-patches quite conspicuously developed. All among a large number of adult females examined have the crown entirely plain.

#### 96. *Sphyrapicus varius*.

*First plumage*: male. Crown dull yellowish-green obscurely tinged in places with dusky-red; nape and a broad stripe extending through and behind the eye dull plumbeous-ash spotted with brownish-white; rest of upper parts like the adults, the white spots, however, tinged with pale greenish-yellow. Throat dull yellowish-scarlet. Malar stripes meeting below the throat-patch, mottled with dusky. Central line of abdomen greenish-yellow; rest of under parts dull greenish and olive, barred everywhere with dusky or dull black. From a specimen in my collection shot at Upton, Me., August 10, 1874. The amount of variation exhibited by a large series of males in first plumage is considerable. In one or two there is no red upon the throat; in others that part is brownish-white with a few scattered red feathers; many have the crown dull-brown, thickly spotted with brownish-white.

*First plumage*: female. Crown very pale greenish-buff, each feather narrowly tipped with brown; feathers of interscapular region dusky, with

transverse bands of yellowish-white; rest of upper parts like the adult. Throat brownish-white; abdomen pale brownish-yellow; breast and sides dull brownish-olive, thickly barred with dusky. From a specimen in my collection shot at Upton, Me., August 6, 1873.

The first plumage of this species is worn for a longer period than that of any other bird with which I am acquainted. Some specimens taken as late as October and November seem not to have fully perfected their first moult, many of the earlier feathers being still retained. In this condition they present a curiously patched appearance, and scarcely any two are alike. Full justice has hardly been done by writers to the adult plumage of this species. Among the males, it is true, only a comparatively small amount of variation obtains, and the full dress is always acquired the first spring. But the females in spring plumage differ to a degree which seems almost endless. This mutation is, however, chiefly in relation to the color and markings of the crown. Thus, out of thirteen females before me, all collected in the breeding season, only six have the full patch of crimson upon the crown. In one specimen the whole top of the head is spotted thickly and evenly with brownish-white. Another exhibits two lateral patches of brownish-orange which extend nearly to the occiput, while a third has a few scarlet feathers upon the forehead. The remainder are variously marked over the crown with mixed yellow and crimson. This excessive variability is probably a purely individual tendency to aberration from a given type, as several spring females not as yet through the moult, and plainly shown by the remains of the previous plumage to be birds entering upon their first breeding season, have fully developed crown-patches of pure crimson.

**97. *Centurus carolinus.***

*First plumage:* female. Crown dull ashy, each feather tipped broadly with plumbeous; nape with a narrow, inconspicuous collar of pale dull brick-red. Rest of upper parts marked as in the adult, with, however, a brownish tinge in the transverse white bands. Abdomen dull saffron; rest of under parts brownish-ashy, nearly every feather in a broad band across the breast with a narrow, obscure shaft-streak\* of purplish-brown. From a specimen in my collection obtained by Mr. W. D. Scott, at Coalburgh, W. Va., July 23, 1872.

**98. *Colaptes auratus.***

*First plumage:* male. Crown washed with dull red; nuchal band dull scarlet. Otherwise similar to the adult, but with the throat tinged with ash and the spots upon the under parts dusky instead of black. From a specimen in my collection taken at Cambridge, Mass., July 6, 1873.

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\* Several Woodpeckers, unmarked beneath in maturer stages, show a tendency to spots or streaks upon the sides and breast when in first plumage.

The female in first plumage I have not seen, but two young females before me, which have nearly perfected their autumnal plumage, have each a *well-defined mustache*, — not black, however, as in the male of any age, but of a dark plumbeous color. Upon raising the feathers, many of them are found to be nearly black at their bases, and a few entirely black ones appear. I have seen two other females, both young birds in imperfect autumnal dress, which had similar dark mustaches. It seems not unlikely that many females of this species may in first plumage be marked nearly like the males.

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### Recent Literature.

**ELLIOT'S REVIEW OF THE IBIDINÆ, OR IBISES.** — During the past year three important papers have appeared relating to different groups of the *Herodiones*. In June, 1877, Mr. D. G. Elliot published a paper on the Ibises,\* Dr. Ant. Reichenow has reviewed the whole group of *Herodiones*, and later Mr. Ridgway has written about some of the American species. Mr. Elliot treats the Ibises and Spoonbills as subfamilies of one family, for which he adopts the name *Ibididae*. After a short *r  sum  * of the literature of the subject he gives a key to the nineteen genera (three being new), among which he distributes his twenty-five species. Then follows a systematic review of the species, with their principal synonymy, and various critical and descriptive remarks, with generally a short account of their habits and geographical distribution. The genus *Ibis* is very properly restricted to embrace only the Sacred Ibis of the Egyptians and a few other allied species. *Falcinellus* is employed as the generic designation for the Glossy Ibis and its allies. Of this group four species are recognized, three of which (*F. guarauna*, *F. ridgwayi*, and *F. thalassinus*) are exclusively American, the other (*F. igneus*) being "cosmopolitan," and represented with us by the "*Ibis ordii*" of Bonaparte and most American writers. The generic name *Ibis* being untenable for any of the New World species, *Eudocimus* (Wagler, 1832) is taken as the only generic name applicable to our White and Scarlet Ibises. — J. A. A.

**RIDGWAY'S STUDIES OF THE AMERICAN HERODIONES.** — The first † of the series of papers here begun deals mainly with the *Ardeidae* and *Cico-*

\* Review of the Ibidinæ, or Subfamily of the Ibises. By D. G. Elliot, F. R. S. E., F. L. S., etc. etc. Proc. Zool. Soc. London, 1877, pp. 477 — 510, Pl. LI.

† Studies of the American Herodiones. Part I. — Synopsis of the American genera of *Ardeidae* and *Ciconiidae*; including descriptions of three new genera, and a monograph of the American species of the genus *Ardea*. By Robert Ridgway. Bull. U. S. Geol. and Geogr. Survey, Vol. IV, pp. 219 — 251, February 5, 1878.

*niidæ*. Five families of American *Herodiones* are recognized, namely, *Cancromidae*, *Ardeidae*, *Ciconiidae*, *Ibididae*, and *Plutaleidæ*, of each of which a concise diagnosis is given. The *Ardeidae* are treated so far in detail as to give the characters of the genera, and a monograph of the American species of the genus *Ardea*. These are four in number, *Ardea occidentalis*, *A. herodias*, *A. cinerea* ("accidental in Greenland"), and *A. cocoi* (South American). Of these four species detailed descriptions of the different phases of plumage are given, with copious tables of bibliographical references. The *A. würdemanni* of Baird, which has been a puzzle to ornithologists for twenty years, is considered to be the "blue phase" of *A. occidentalis*, nearly ten pages (nearly one third of the paper) being devoted to a discussion bearing upon the character of *A. "würdemanni"*. *A. occidentalis* is thus added to the series of "dichromatic" species of *Ardeidae*. This conclusion rests at present mainly on theoretical grounds. After referring to dichromatism as exhibited in several other species of Herons, and in some Hawks and Owls, Mr. Ridgway says, "Who then, in view of these facts, can offer reasonable objection to the theory that *Ardea occidentalis* is likewise represented by two distinct phases of plumage, of which the white is by far the more common, the normal or colored phase ('*würdemanni*') being very rare — perhaps becoming extinct?"

As shown by the species already cited as composing the genus *Ardea*, this genus is again restricted to rather narrow limits, the American species of the subfamily *Ardeinae* alone being distributed into fourteen genera, of which two are new. Among the North American we have *Herodias*, *Garzetta*, *Florida*, and *Butorides* again reinstated, while the *Demiegretta* of Baird is divided into *Hydranassa* and *Dichromanna*, the last a new genus with the *Ardea rufa* of authors as type. The other new genus is *Syrigma* (= *Buphus*, Bon. 1855, *nec* Boie, 1826), with the South American *Ardea sibilatrix* as type.

The *Ciconiidae* (of which the Wood Ibis is the only North American representative) is treated more briefly. A new genus (*Euxenura*), however, is instituted for the *Ciconia maguari* (Auct.) or the South American Stork, based chiefly on the remarkable characters of the tail (illustrated by an excellent figure), in which the lower coverts are elongated and stiffened, so as to resemble rectrices, the tail proper being short and deeply forked. — J. A. A.

REICHENOW'S REVIEW OF THE HERONS AND THEIR ALLIES. — Dr. Reichenow's order, "Streitvögel," or "Gressores," \* embraces the ordinary

\* Systematische Uebersicht der Schreitvögel (*Gressores*), einer natürlichen, die *Ibidæ*, *Ciconiidae*, *Phænicopteridae*, *Scopidae*, *Balaenicipitidae*, und *Ardeidae* umfassenden Ordnung. Von Dr. Ant. Reichenow, Assistent am kgl. zoolog. Museum in Berlin. Journal für Ornithologie, XXV Jahrgang, pp. 113 — 171, 225 — 278, pl. I, II. April and July, 1877.

*Herodiones* of authors, with the addition of the Flamingoes (*Phoenicopteridae*). He discusses at some length the affinities of this group, but we fail to be convinced of the propriety of its removal from the Anserine series, where of late it has been pretty generally placed, to its present association. In his introductory remarks Dr. Reichenow discusses the object of classification, the questions of "subspecies" and "varieties," and rules of nomenclature. He adopts the tenth edition (1758) of the "Systema Naturae" as the starting-point of binomial nomenclature in zoölogy, and accepts, very properly, no specific names of an earlier date, while the first edition (1735) of the same work is taken as the earliest point of departure for generic nomenclature. He also throws over all "barbarous" names, whether specific or generic, all names of erroneous signification, and all classical names improperly constructed. Under these restrictions many long-established and familiar designations fall, to be replaced by the next (in Dr. Reichenow's view) unobjectionable name. In default of any such our author proceeds to supply the deficiency. In this way, to cite a few examples, *Platalea ajaja* becomes *P. rosea*; *Ciconia maguari* becomes *C. dicerura*, Reichenow; *Ardea herodias* becomes *A. lessoni*, etc.; the generic name (subgeneric in Reichenow's system) *Grosarchius* is replaced by *Butio*, Reichenow, *Zebrius* by *Microcnuus*, Reichenow, *Agamia* by *Doryphorus*, Reichenow (a name essentially preoccupied in entomology by *Doryphora*), *Garzetta* and *Egretta* by *Erodius*, etc., the earlier names being in each case supplanted because "barbarous." The specific names *major*, *fuscus*, *purpureus*, etc., when erroneous in signification, are replaced by later ones. These are innovations which we think stand small chance of general acceptance, and admit of no adequate defence, however advisable it may be to discard the practice of adding such names in future.

After discussing at some length the characters and classification of the order "Gressores," the author passes to a synopsis of the group, giving briefly the characters of the families, genera, and subgenera, short Latin diagnoses of the species, and the more important synonyma. Under the head of each family are general remarks upon the number of species, their distribution and habits. The whole number of species recognized is one hundred and twenty-three, with, in addition, quite a number of "subspecies" and "varieties." These are arranged in six families ("*Ibidae*," twenty-seven species; *Ciconiidae*, nineteen species; *Phoenicopteridae*, five species; *Scopidae* and *Balaenicipidae*, each one species; *Ardeidae*, sixty-seven species), fourteen genera, and twenty-two subgenera.

In respect to the matter of genera, Dr. Reichenow displays extreme conservatism, his genera having in most instances a value most writers regard as supergeneric. His subgenera even are more comprehensive than are the genera of the ultra-divisionists, but in the main are such groups as we should consider as properly constituted genera. The contrast in respect to genera is rarely greater, among contemporary writers working in the same field, than is that presented by Dr. Reichenow on the one

hand and Messrs. Ridgway and Elliot on the other, the fourteen genera of Ibises recognized by Elliot forming only two in Reichenow's system, while the contrast is perhaps greater between the work of the latter and Mr. Ridgway's, so far as they cover common ground.

While differing from Dr. Reichenow respecting important principles of nomenclature, and on various points of classification, we can but accord to his paper a high importance, as it evinces laborious and careful research, and embraces a vast amount of information, succinctly and lucidly presented, that will be of great service to future workers in the same field.—J. A. A.

**BREWER'S SUPPLEMENT TO HIS CATALOGUE OF NEW ENGLAND BIRDS.**—This paper\* adds twenty-one species to the "Catalogue of the Birds of New England," published by this author in 1875, and contains notes on twenty-seven other species of rare occurrence in New England. The record of rare captures and of additions to the New England avian fauna is faithfully brought down to date, this brochure forming a most valuable appendix to his former "Catalogue." The whole number of "recognized forms" now admitted by him as having been taken in New England is three hundred and fifty-six. "To show," says our author, "the zeal and industry with which the knowledge of our fauna has been studied and extended, it needs only to be mentioned that the list now contains the names of not less than forty species not positively known to occur in New England prior to 1874, although the occasional appearance of some five or six had been looked for by several prophetic observers. This does not include seven species whose names had been borne on previous lists, but without any recorded evidence of their right to be there. It moreover includes two or three forms that some do not recognize as of specific value, and one whose very existence as a species appears to call for more evidence before its reality can be fully admitted."—J. A. A.

**SAUNDERS ON THE LARINÆ.**—The writer is indebted to the author for the early sheets of this very interesting, thorough, and discriminating review† of the family of Gulls, and although there is much in this paper throwing a welcome and greatly needed light upon several other than North American species, only the latter will be here considered. The whole number of species recognized in this paper is forty-nine, of which number twenty may be counted as North American, in which are included two, *Larus canus* and *L. affinis*, of purely accidental occurrence. It is not a little remarkable that *Larus affinis*, now recognized as a well-marked species, should have been first described by Professor Reinhardt from an individual that had straggled to Greenland. The investigations of See-

\* Notes on certain Species of New England Birds, with Additions to his Catalogue of the Birds of New England. By T. M. Brewer. Proc. Boston Soc. Nat. Hist., Vol. XIX, pp. 301-309, April, 1878.

† From the Proceedings of the Zoölogical Society of London [pp. 155-212], February 5, 1878.

bohm and Harvie Brown now show that its true habitat, in the breeding season, is in Northeastern Europe, on the Petchora. Specimens in an immature plumage had previously been taken on the Red Sea and in India, and also one from Novaya Zemlia. It is known only as a straggler to North America.

The only generic names retained by Mr. Saunders are *Larus*, *Xema*, *Rissa*, *Pagophila*, and *Rhodostethia*. To *Pagophila* he assigns but a single species, regarding *brachytarsus* as only a synonym; to *Rissa* two, treating *kotzebui* as only a form of *tridactyla*; to *Larus* forty-three species; to *Xema* two, *sabinii* and *furcatum*; and to *Rhodostethia* one. Although the absence of a hind toe has been regarded as the principal characteristic of the genus *Rissa*, and this feature is now known not to be a constant peculiarity, Mr. Saunders retains it as valid on account of other structural characteristics: these are the remarkably short tarsus, its forked tail, and the peculiar livery of the immature bird, besides its exclusively crag-nesting habits.

*Larus hutchinsii* Mr. Saunders considers to be an immature *L. glaucus* in that very brief stage where the mottled brown of the immature plumage has passed away and the pearl-gray mantle has not begun to appear,—a stage so short that but few specimens are recorded in this condition, though it is not uncommon in captivity.

*Larus glaucescens* is treated as a valid species, synonymous with *glaucopterus* of Kittlitz and with *chalcopterus* of Lawrence. Its relationship to *glaucus* is shown by its changes of plumage to be closer than to *argentatus*.

*Larus occidentalis* is regarded as "a very recognizable form and fully deserving of consideration as a species," *L. affinis* being its nearest ally. Although compared with *L. fuscus*, it is more closely related to the Herring-Gull group in its larger size, stout bill, and large feet.

*Larus californicus* of Lawrence was first described by Pallas as *Larus niveus*, but the latter name "is not available, having been previously employed by Boddaert for *P. eburnea*." This species occurs on the Japan coast, crossing the North Pacific, corresponds with the *niveus* of Pallas, and there is little doubt of its identity. The figure given by Pallas is said to be a perfect portrait of a specimen recently sent from the Smithsonian to Mr. Saunders. Mr. Saunders also shows conclusively that this species cannot be the *L. argentatoides* of Bonaparte's "Synopsis," for that is spoken of as "common near New York and Philadelphia," and as occurring "on the southern coasts of England," while the description and measurements suit *delawareensis*. Neither can *L. argentatoides* of Richardson be identical with *L. californicus*, for reasons equally conclusive.

*Larus delawarensis* is held to be the *argentatoides* of Bonaparte (*nec* Brehm). An immature specimen of this bird is recorded as from Hakodadi, Japan.

*Larus brachyrhynchus*, synonymous with *suckleyi* and *septentrionalis*, is regarded as an entirely distinct species from *canus*. In all the specimens

seen by Mr. Saunders the color of the mantle of this species is darker than in the darkest *L. canus*. From the latter its general appearance is so different that they are distinguishable at a glance.

Among the synonyms of *Larus franklini* are given *cucullatus* of Bruch, Lawrence, and Coues, *kittlitzii* and *schimperi*, both of Bruch. On the Pacific coast this species goes down as far as Chili, fully adult examples having been taken as far south as Santiago.

*Rhodostethia rosea*, the rarest of this family, is known by some thirteen examples. With two, perhaps three, exceptions these have all been taken in Arctic America. The one said to have been taken in England rests on very questionable authority. Sabine's Gull, on the Pacific coast, on the authority of Professor Steere of the University of Michigan, has been taken on Macebi Island, on the coast of Peru, in latitude 8° south. The example was in the adult plumage.

Mr. Saunders's paper evinces a remarkable success in disentangling the complicated web of European Gulls; but to explain the great service thus rendered would take too much space, and would not interest most of the readers of the Bulletin. This is especially true of the synonymy of *leucophaeus*, *argentatus*, *cachinnans*, — which at last takes its place as a good species, a synonym not of *argentatus*, but of *leucophaeus* and *michahellensis*, — *affinis*, *ridibundus*, and *ictyaetus*. A more complicated tangle than these six species presented, thanks to such splitters as Boie, Brehm, Bruch, and Bonaparte, it would be hard to imagine, and the service rendered by Mr. Saunders cannot fail to be appreciated by all who have experienced its need. — T. M. B.

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## General Notes.

THE NESTING OF THE YELLOW-BELLIED FLYCATCHER (*Empidonax flaviventris*). — On Monday, June 10, 1878, while collecting in company with Mr. R. F. Pearsall on the island of Grand Menan, I flushed a Yellow-bellied Flycatcher, which seemed to come from directly under my feet. The locality was a good-sized hummock of moss, in swampy ground at the edge of some low woods. For some time I was unable to find any signs of a nest, but finally I discovered a small hole one and a half inches in diameter in the side of the hummock, and on enlarging this opening the nest, with four eggs, lay before me. The bird, which had all the time been hopping around within a few feet of our heads, was at once shot. The cavity extended in about two inches, was about four inches in depth, and was lined with a very few grasses, black hair-like roots, and skins of berries. The eggs, four in number, are white, with a very delicate creamy tint, which differs in its intensity in the different specimens, and are spotted, mostly at the larger end, with a few dots and blotches of a light reddish shade.

As far as I can learn, there are several nests of this bird in different collections, the identities of most if not all of which are disputed. The description in Baird, Brewer, and Ridgway's work agrees very well with nests of the Traills' Flycatcher which I have seen, but is totally different from that of the nest now before me, and so much so that, although I am well aware of the great differences existing in the nesting habits of birds of the same species, yet I cannot believe them to extend as far as this.

As we were leaving Grand Menan, a nest was brought to us which I have no doubt is of the same species, as the position and construction, which are, to say the least, peculiar, as well as the eggs, correspond exactly; also the finder's description of the bird.—S. D. OSBORNE, *Brooklyn, N. Y.*

THE BLUE-WINGED YELLOW WARBLER (*Helminthophaga pinus*) IN MASSACHUSETTS.—Although this species has been recorded\* as a bird of the State, and the specimen cited is in the collection of the Boston Society of Natural History (the specimen was captured in Dedham by Mr. Emanuel Samuels and presented to the society by Dr. Cabot), recent writers on Massachusetts birds have seen fit to exclude it from their lists. I have just examined a fine male specimen of this species which was captured in West Roxbury, Mass., on May 17, 1878, by Mr. C. N. Hammond. It is now in the collection of Mr. John Fottler, Jr., of Boston. This makes the second recorded instance of its capture in the State.—RUTHVEN DEANE, *Cambridge, Mass.*

THE SKUA GULL (*Stercorarius catarractus*) ON THE COAST OF MASSACHUSETTS.—Professor Baird has recently informed me that one of his party found, on the 18th of July, at the Fort Wharf, Gloucester, the dead body of a bird that proved upon examination to be an example of the common large Skua. The bird showed marks of having been recently kept in confinement, and a little inquiry elicited the information that it had been captured alive by means of a hook on the Georges, and had been kept alive on one of the fishing vessels. This is the first instance on record in which one of this species has been taken on any part of North America other than Greenland; and as the Georges geologically and practically belong to our coast water, this bird may now be classed not only as of North America proper, but also of New England and Massachusetts.—T. M. BREWER, *Boston, Mass.*

RUFOUS-HEADED SPARROW (*Peucaea ruficeps*) IN TEXAS.—On April 24, 1878, Mr. George H. Ragsdale, of Gainesville, Texas, shot a male and female of this species in Gilliespie County, Texas, about one hundred miles west of Austin. The species was first described from specimens taken in California. In 1873 it was found in Arizona by Mr. H. W. Henshaw, and also at Fort Bayard, N. M. He speaks of finding it numer-

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\* Proc. Bost. Soc. Nat. Hist., Vol. VI, p. 386.

ous south of Camp Grant in Arizona, and says that in its notes and habits it bears a close resemblance to the Song Sparrows. This appears to be its first known occurrence east of Southwestern New Mexico. For an opportunity of examining one of the above-mentioned Texas specimens, and for the data respecting their capture, I am indebted to Mr. Ragsdale.—**J. A. ALLEN, Cambridge, Mass.**

**EARLY NESTING OF THE SHORE LARK NEAR INDIANAPOLIS, IND.**—The Shore Lark is well known as being a bird that rears its first brood of young very early in the season, but the following places the record nearly a month earlier than any before known to me. Professor David S. Jordan writes, under date of April 24, 1878: "Professor Brayton shot here (near Indianapolis, Ind.) this morning a number of Shore Larks (*Eremophila alpestris*), and among them were two young birds, about grown. The bird usually remains here most or all of the summer, but I never knew of their breeding so early."—**J. A. ALLEN, Cambridge, Mass.**

**BREEDING OF THE SHORE LARK IN WESTERN NEW YORK.**—My attention has been drawn to John M. Howey's note in the January number of the Bulletin (Vol. III, p. 40), on the breeding of the Shore Lark (*Eremophila alpestris*) in Western New York. For the past two years this bird has been quite common in our locality, and on June 6, 1876, it was my good fortune to find a nest and eggs of this species. The nest was placed on the ground in nursery rows of young apple-trees, and was composed of dried grasses very loosely put together. It contained four eggs, which were blown with difficulty, the embryo being about one third developed. During the past season several pairs remained with us all summer, but I was unable to find their nests.—**H. T. JONES, Rochester, N. Y.**

**RED-HEADED WOODPECKER EATING GRASSHOPPERS.**—Much has been said in relation to the change in the habits of the Red-headed Woodpecker, and the fact that he has been compelled, by the intrusion of other birds, to such ordinary insects, instead of those which inhabit the outside and inside of trees, has been noted by many observers. During the summer of 1877 I saw one on the prairie, half a mile from the timber, very intently bent upon catching grasshoppers (*Caloptenus spretus*). The bird made a fence-post his point of departure and return, flying off a few rods and capturing his game, and then alighting on the post to devour it more at leisure. These birds are apparently much less numerous in this region than they were ten or twelve years ago.—**CHARLES ALDRICH, Webster City, Iowa.** (*Communicated by E. C.*)

**SONG OF HEPBURN'S FINCH (*Leucosticte littoralis*, BAIRD).**—In a recent letter (February 25, 1878) from Captain Bendire is the following interesting note on the song of Hepburn's Finch. As no writer has made any mention of the song of this species, I deem the Captain's account well worthy of a place in the Bulletin. "Yesterday evening," he writes, "on my way to the stable, I saw a solitary *Leucosticte* on the eave of the roof

of Captain McGregor's quarters. He is quite a lover of birds, and has three canaries, their cages hanging against one of the side windows. The little Finch on the roof evidently had heard them singing, and was, at the moment when I noticed him, showing what he could do in that line. He evidently saw the birds in their cage, as every once in a while he stretched his neck and looked down in the direction of the window. Its song was quite varied, low, and sweet, but feeble and without much volume. It was still quite a fair and very pleasant song. I was quite surprised, and listened to him for full five minutes. This was the first time I have heard any making an attempt to sing." — T. M. BREWER, *Boston, Mass.*

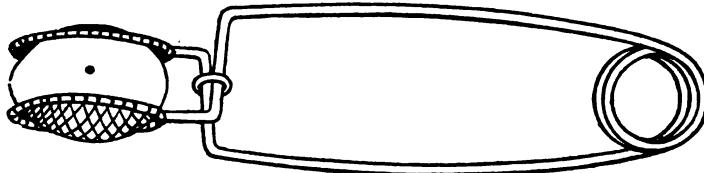
**THE SHORT-TAILED TERN (*Hydrochelidon fuscipes*) IN MASSACHUSETTS.**

— In view of the fact that the Short-tailed Tern has been heretofore considered a rare visitor to Massachusetts, it may be of interest to state that during a week spent on the island of Nantucket in August, 1878, a large number of specimens were observed by the writer. On August 16 no less than eight individuals were seen in the harbor near the town, and several were shot and examined. On every subsequent occasion when the shores of the island were visited small companies of these Terns were seen, sitting on the sand-bars, or fishing among the other and commoner species. They associated most commonly with the Wilson's and Roseate Terns, and procured their food in the same way, hovering over the "schools" of blue-fish and pouncing upon the small fry which these voracious creatures drove to the surface. The stomachs of all the specimens which were dissected contained the macerated remains of small fishes only. In no case were any insects detected. — WILLIAM BREWSTER, *Cambridge, Mass.*

**THE BLACK-THROATED BUNTING (*Euspiza americana*).** — On page 45 of the present volume of the Bulletin reference is had to the finding the nest and eggs of this bird in Medford, in June, 1877, and the remark is made that but few instances are known of this bird nesting in Massachusetts. Without disputing this statement, I would mention that in 1833 and 1834 this bird was by no means uncommon in Cambridge in all the (then unoccupied) region around the Botanical Garden and thence to West Cambridge and Charlestown. It may be found now every summer on the high promontory making the northeast corner of Hingham, known as Planter's Hill and World's-End, lying between Weir River and the harbor. Mention is made of its breeding in that locality in "North American Birds" (Vol. II, page 67, lines 2 and 3), and since then its presence has been noted every season when search has been made. In order to verify its presence in this its favorite locality, this summer I made a successful exploration, June 30, in company with my nephew, Willard S. Brewer. We found one pair, with young, which the female was busily engaged in feeding with small grasshoppers, while the male was intent upon his quaint serenade on a near heap of stones. They were quite tame and unsuspicous, and permitted a very close approach. We saw two other males,

evidently in the neighborhood of their respective families, but the heat compelled us to desist from further investigations. In the same locality we found *Spizella pusilla*, *Pooecetes gramineus*, and *Melospiza melodia*, but the Buntings were present in at least equal numbers, as we heard the notes of other males besides the three we fully identified. But a fierce sun, with the glass at 90° in the shade, was not favorable to a full census of all the pairs inhabiting this remote region. We saw enough to satisfy us of its actual presence in considerable numbers. — T. M. BREWER, *Boston, Mass.*

A HINT TO EGG-COLLECTORS. — The usual method of emptying eggs through one small hole with a bent blow-pipe is doubtless supposed to be a very modern trick; but it dates back to 1828, when M. Danger\* pro-



posed "a new method of preparing and preserving eggs for the cabinet," which is substantially identical with the operation as now universally practised, though he used a three-edged needle to punch the hole, instead of our modern drill, and did not refer to some of our late ways of managing the embryoa. I refer to the paper less as a matter of history than for the purpose of bringing to notice one of the tools which M. Danger recommends, and which I think would prove very useful indeed. In fact, I am rather surprised that it has been so long neglected, and strongly advise a trial of the instrument, as something better than fingers for holding the egg during drilling and blowing. The instrument is so simple, that it will be understood without description by a glance at the accompanying figure. The oval rings are covered with some light fabric, like mosquito netting, and do not touch the egg, which is held lightly but securely in the netting. Such an instrument would cost but a trifle, and it seems worth ascertaining whether we may not avoid danger by Danger's own method. — ELLIOTT COUES, *Washington, D. C.*

THE KENTUCKY WARBLER (*Oporornis formosus*) AT SING SING, N. Y. — At this place, in June, 1875, I found the nest, containing three fresh eggs, and secured the two old birds of this species.† The woods where they were found is a long belt, which lies on both sides of a stream which

\* Mémoire sur une nouvelle méthode de préparer et de rendre durables les collections d'œufs destinés aux cabinets d'histoire naturelle; par M. F. P. Danger. *Annales des Sciences Naturelles*, 1<sup>re</sup> sér. V, 1828, pp. 338 - 348, pl. 10.

† Am. Nat., Vol. IX, No. 10, October, 1875, p. 573.

originally must have been much larger. It has worn away ravines some thirty or forty feet deep; in other places it has expanded into shallow flats. The length of the stream is about three miles, and it runs in a ravine through the very heart of our village, and empties into the Hudson. The stream now is quite small, and the level places along the banks of the upper portion are covered by weeds, ferns, and scanty undergrowth. The woods which overhang the stream along its course, only broken now and then by a field or pasture, are composed of large hemlock, oak, and chestnut trees, under which there is little undergrowth, and the rays of the sun hardly penetrate their thick foliage, making a cool and shady retreat. Here, this spring and summer, seemed the very paradise for the Kentucky Warbler. While collecting, May 21, I saw four flitting here and there among the small plants, and secured two; May 22 I collected four more; the 24th, four were seen, and I shot three; the 27th, I saw two; on the 29th, a mile up the stream, I saw another, and my friend, Mr. George Hylea, shot one still higher up. June 1 and 4 I saw a pair near where the first ones were seen, and on the 20th of June found their nest containing five young, which left it June 29. June 9, in a woods some miles distant, I saw a male. June 26 I saw still another, and from its actions it must have had a nest or young near, but from want of time I did not look for it. July 5 a male came under my window, and, perching on a shrub, warbled out his short but lovely song. The same day Mr. Hyles saw a male four miles south of this place. Allowing the same ones were sometimes seen twice, there have been at least sixteen individuals here, and undoubtedly four nests. — A. K. FISHER, *Sing Sing, N. Y.*

THE SNOW-BIRD IN SUMMER ON MOUNT WACHUSSETT. — Mr. Bradford Torrey writes: "On the 8th of July (1878) I saw a pair of Snow-Birds (*Junco hyemalis*) on the summit of Mount Wachusett, and, as I do not find any mention of their breeding there either in the 'History of North American Birds' or in Mr. Allen's 'Catalogue of the Birds of Massachusetts,' I venture to send you this item, trusting that you will overlook the seeming presumption if the fact is one well known." Although there is, I think, no record of the presence in the breeding season of the Snow-Bird on Mount Wachusett, it is well known to occur there at that season, where it has been met with by Mr. Brewster and other observers repeatedly during the last few years. The occurrence of an isolated colony of these birds on Mount Wachusett seems well worthy of record. — J. A. ALLEN, *Cambridge, Mass.*

AN ALBINO ANNA HUMMING-BIRD. — I had sent to me, July 10, 1878, a fine specimen of an albino Hummer of the species *Calypte anna*. It was taken in San Rafael, Marin Co., Cal., by parties unknown to me. The bird has the head, neck, and under parts bluish-white; back and tail with a pale creamy tint; three longest feathers in upper tail-coverts pale cinnamon; bill and feet flesh-color; eyes pinkish; primaries and secondaries pure white; eyelids with a creamy tinge. The bird was a young

one, and the sex could not be readily determined.—C. A. ALLEN, *Nicasio, Marin Co., Cal.*

WILSON'S THRUSH, WITH SPOTTED EGGS AND NESTING ON A TREE.—In a collection of nests and eggs received from Vermont this season was the nest of this species built upon a horizontal limb of a tree, fifteen feet from the ground, and containing four spotted eggs. This is the only instance I have ever known either of the nest being much above the ground or of the eggs being other than immaculate. But I find it is not without precedent. Mr. George O. Welch several years since found a nest of this Thrush in Lynn at a height of twenty-five feet above the ground, and Mr. Allen has recorded (Proc. Bost. Soc. Nat. Hist., XVII, 48) an instance of its having spotted eggs. This case combines both. The nest is large and bulky, was saddled over quite a large limb, the impress of which is shown in the base. The ground-color of one egg is unusually deep, as deep as that of a Catbird, but of a different shade. The spots are of a bright golden-brown, in one egg very strongly marked, in the other three not so much so. The parent was sent with the nest, and before I received it its identity had been carefully verified by that veteran ornithologist, Charles S. Paine, Esq., of Randolph, Vt.—T. M. BREWER, *Boston, Mass.*

THE PYGMY OWL (*Glaucidium californicum*).—On the 13th of August, 1877, about dusk, I heard near the house a great fuss among a lot of Brewer's Blackbirds, which had nested in a small clump of red-woods near by. On approaching the spot, out went a bird, to which all the Blackbirds gave chase. When all had settled in a red-wood tree near by, I saw a Pygmy Owl sitting on a limb,—the cause of all the noise. I had my gun brought to me, when I shot the Owl, which proved to be a female. Again on July 8, 1878, at nine o'clock A. M., I heard a disturbance among the Blackbirds in the same clump of trees, and, suspecting the cause, took my gun and went to see what was the matter. On approaching the spot, out flew a lot of birds of different species, and among them a *G. californicum*, which, after much trouble, I shot as it was flying over some low bushes; this one was a male. There were fighting the Owl one pair of *Tyrannus verticalis*, one pair of Bullock's Orioles, one pair of Bewick's Wrens, three Banded Tits (*Chamaea fasciata*), one pair of *Pipilo oregonus*, one pair of *P. crissalis*, and about twenty Blackbirds (*Scolecophaagus cyanocephalus*). The bravest birds of the troop were Bewick's Wren and Bullock's Oriole, which kept darting at the Owl's head as it sat on the ground devouring a young Blackbird. I have seen a Pygmy Owl dart down and lift a Chipping Squirrel with ease and carry it off.—C. A. ALLEN, *Nicasio, Cal.*

THE CAROLINA WREN IN MASSACHUSETTS.—My friend, Mr. Geo. O. Welch, secured a fine specimen of the *Thryothorus ludovicianus* in Lynn, on the 6th of July. The imprudent stranger ventured within an easy range of his work-room window, in the very heart of the city, and now remains as tangible evidence of its right to a place on the list of the birds of this State as well as New England.—T. M. BREWER, *Boston, Mass.*

THE TITLARK (*Anthus ludovicianus*) IN MASSACHUSETTS IN JUNE.—The occurrence of the Titlark on the coast of Massachusetts so late as the 8th of June, with just the possible suspicion that it was about to breed there, is a very interesting and characteristic fact in the history of the eccentric and abnormal habits of this species. It has been claimed to breed regularly in Central New York, though its presence there in mid-summer would seem, of itself, so improbable as to require confirmation. The example now referred to as taken on our coast was shot by Mr. Wm. A. Jeffries, on a small island off the shore, at Swampscott, on Saturday, June 8. Its mate, if it had one, could not then be found, nor any trace of a nest. We cannot be certain of its having been a mated bird, but the condition of its reproductive organs renders this supposition probable. The occurrence of this species on our coast, in the height of the breeding season, while it does not necessarily confirm that of Mr. Gilbert of Penn Yan (see Bull., III, p. 35), goes a good way to establish its eccentric and nomadic habits, and prepare us to accept as possible, irregularities that would be improbable in almost any other species. — T. M. BREWER, *Boston, Mass.*

NESTS AND EGGS OF HELMINTHOPHAGA PINUS.—MR. S. N. Roads, of West Chester, Pa., writes respecting two nests of this bird, the nidification of which is as yet none too well known. On the 12th of June, 1878, he found a pair of these Warblers showing unmistakable signs of having a nest, which latter he soon discovered, as he saw the male fly to it with a worm in his bill. It was built in the midst of a clump of tall swamp-grass, on the outskirts of a forest where there was a good deal of weedy undergrowth not over two feet high. The nest rested slightly on the ground, and was quite bulky for the size of the bird; the cavity was nearly three inches deep by two inches in width. The structure was composed externally of beech and oak leaves of the preceding year, which "seemed to have been carelessly strewn and stuck in as if to form a barricade around the brim." The lining consisted of fine strips of grape-vine and inner bark of the oak, together with some straws. This nest contained four young birds about two days old.

Mr. Roads shortly afterward procured two eggs from another nest which he found about a quarter of a mile from the same spot. These were pure white, dotted with red at the greater end, and were of just the size of those of *Chrysomitis tristis*, but less pointed. He also examined another set of eggs procured by a friend in the same vicinity. — ELLIOTT COUES, *Washington, D. C.*

THE WINTER WREN BREEDING IN SOUTHERN NEW YORK.—Six miles south of Ithaca, N. Y., and leading eastward from Enfield Falls into the Cayuga Valley, is a beautiful glen. It is long, deep, and narrow, with steeply diverging walls rising, on either side, some three hundred feet above the bed of the stream. Large hemlock, pine, and beech trees are so closely crowded together in it as to preclude effectually the sun's rays,

and, with the stream running below them, to secure for the glen a temperature and humidity not unlike what is to be found in the forests of Northern Wisconsin.

In company with my friends, F. H. Severance and W. Trelease, I paid a visit to this glen June 21, 1878. Just below the Falls, where the glen widens, a group of five Winter Wrens (*Anorthura troglodytes* var. *hyemalis*) were discovered darting in and out of a brush-pile which lay a short distance back from the stream. On securing one of these, it was found to be a fully fledged young bird, but so immature as to leave no doubt that it was one of a brood which had been reared in the glen.

It may be added that two Winter Snow-Birds were observed in this glen on the same date, and that an Acadian Flycatcher was obtained there.—  
F. H. KING, *Ithaca, N. Y.*

THE SOOTY TERN IN NEW HAMPSHIRE.—Up to the present time record has been made of the capture of nine specimens of this Tern in New England,\* all these examples having been taken in Massachusetts, Rhode Island, and Connecticut, since September, 1876. I now record the tenth and most northern specimen, a fine adult male, taken at Newmarket, N. H., about September 14, 1878, by Mr. D. C. Wiggin. I am indebted to Mr. Charles I. Goodale, who has preserved the specimen, for the above facts.—RUTHVEN DEANE, *Cambridge, Mass.*

SABINE'S GULL IN MAINE.—Mr. G. A. Boardman writes that among the rare birds taken by him last spring (1878) near Calais, Me., is a Sabine's Gull (*Xema sabini*), in very nearly full plumage. I am also informed that a specimen of the same species was taken not long since at Portland, Me. The only other New England record for the species is Boston Harbor, Mass., September 27, 1874 (*Brewster*, Amer. Sportsman, V, 1875, 370; *Brewer*, Proc. Bost. Soc. Nat. Hist., XVII, 1875, 449).—  
J. A. ALLEN, *Cambridge, Mass.*

THE WHITE-CROWNED SPARROW BREEDING IN VERMONT.—One of my correspondents, Mr. H. E. Boughton, of Rutland, Vt., writes me that he has, the present summer, found a pair of *Zonotrichia leucophrys* breeding in that locality. As I know of no other record of this bird breeding in New England, I send the item, with all he writes me in regard to it. "The nest," he says, "was taken by myself, and was situated in a clump of blackberry and maple bushes, and was about three and one half feet from the ground. It is composed entirely of straw and grass, is very bulky, being almost as large as the nest of a Robin on the outside, and about one and one half inches in diameter on the inside. When the nest was approached the bird, which was very shy, would dart off from it and into the bushes like a shot; but by concealing myself I obtained a good view of her when she returned."—T. M. BREWER, *Boston, Mass.*

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\* Merriam's Review of the Birds of Connecticut, pp. 134, 135; Bull. Nutt. Ornith. Club, Vol. II, pp. 22, 27, January, 1877.

NESTING HABITS OF THE RED-BELLIED NUTHATCH.—Having been observing the nesting habits of the Red-bellied Nuthatch (*Sitta canadensis*), I will give the readers of the Bulletin the results of my observations. June 2, I found a nest on Little Deer Isle, Penobscot Bay. It was in a white-birch stub some ten feet from the ground; the entrance was one and one half inches wide by one and one fourth deep. The hole ran slanting for three inches, and then straight down for four inches more. It contained six eggs, which were white, with small specks of reddish-brown on the small end, and heavily spotted with the same on the larger end, a great deal more brown than the eggs of the White-bellied Nuthatch. Incubation had not commenced. For two inches below the centre of the hole, and for half an inch on either side, the birch bark was coated with fir balsam. June 20, I found another in Holden, Me., which the young had just left. It was in a poplar stub some twelve feet from the ground. Hole one and one half inches by one inch, slanting down four inches, and then four inches straight down. This hole had fir balsam one fourth of an inch thick for two inches below the hole, and then thinner, and running down in large drops for twenty-one inches below the hole. The pitch extended an inch on either side, and more than three inches above the hole, in all more than could be heaped upon a large tablespoon. It was stuck full of the red breast-feathers of the bird, but there were no signs of any insects having been fastened by it. This nest had been occupied two years. Near both the nests were other holes not so deep, probably used for one of the birds to occupy while the other is sitting, as is the case with most Woodpeckers. Both nests were composed of fine short grasses and roots. I notice that in making the hole the bird makes a circle of holes round a piece about as large as a ten-cent-piece, and then takes out the piece of bark entire. I have one nest which has near it a piece circled in this manner, but not removed. My friend, Mr. Harry Merrill of Bangor, found a nest last year surrounded by pitch just as in those found by me. So that it seems certain that in most cases they do this, though for what purpose I am as yet unable to determine. The pitch certainly was placed there by the birds, as neither birch nor poplar contains pitch, and there were no overhanging trees from which a drop could come. I think it would take the bird several days of steady work to obtain what was around the nest in the poplar. I think that more nests would be found if people did not mistake them for holes of the Downy Woodpecker, which are of the same size, though rounder. Audubon speaks of their being placed four feet from the ground; but while this is sometimes the case, they are oftener ten to fifteen feet from the ground. It is easy to tell even an old nest from that of either a Downy Woodpecker or Black-capped Titmouse, as the Woodpecker lays directly upon fine chips, without any nest, and the Titmouse makes a nice nest of fur and feathers, and neither place any pitch round the holes, while the Nuthatch makes its nest of short fine grass and protects with pitch outside the hole.—MANLY HARDY, Brewer, Me.

TRAGIC FATE OF A SUMMER WARBLER.—A pair of *Dendroica aestiva* built for their second brood in a bush in the garden. Being interested to learn the progress of their domestic lives, I visited the spot frequently. On the fifth day I found the poor mother-bird hanging dead from the half-finished nest by a piece of cord which was twisted tightly around her neck.—W. L. COLLINS, Frankfort P. O., Pa. (Communicated by E. C.)

Eggs of THE SOLITARY SANDPIPER (*Rhyacophilus solitarius*, Bp.).—The egg of this species has remained, to the present time, an unknown and much-desired addition to our cabinets. From time to time eggs claimed to be of this bird have been described, or have had a nominal existence in collections. But these claims have always been open to suspicion and doubt. The eggs have all either had so strong a resemblance to either the egg of the Spotted Tatler (*Tringoides macularius*) or to that of the Killdeer (*Ægialitis vociferus*) as to cause the belief that their identification could not have been correctly made. During the last year eggs were sent to me for verification from five different parties, and all were deemed not worthy of credence. A few days ago, hearing of a Solitary Tatler having been shot near her nest, and an egg obtained, in Castleton, Vt., I at once wrote to the party, and have obtained from him a temporary loan of both parent and egg, with permission to describe the same in the Bulletin.

The bird and egg were taken by Mr. Jenness Richardson about the middle of May,—I have not the exact date,—1878, at Lake Bomaseen, on the ground, in a pasture bordering on a swamp. The bird was on her nest when first discovered, but fluttered off when approached, ran a short distance, then stood still, watching him until she was secured. There was no actual nest, only a small depression in the ground. I am informed by Mr. Richardson that the bird is quite common in that locality, but very shy. This egg resembles no egg in my possession, and in its appearance there is something suggestive of an egg prematurely cut from its parent. It is smaller than I anticipated, measuring only  $1.37 \times .95$ , while the egg of *Totanus ochropus*, which bird closely corresponds in size and appearance with our Solitary, measures  $1.50 \times 1.10$ . The ground-color is a light drab, similar to that of the egg of *Ægialitis melodus*. Over this are scattered small rounded markings of brown, some of these quite dark, nowhere confluent, and never large enough to be called blotches. At the larger end there are a few faint purplish or lilac discolorations or shell-marks. In shape it is an elongated pyriform.—T. M. BREWER, Boston, Mass.

LINCOLN'S FINCH (*Melospiza lincolni*) BREEDING IN HAMILTON COUNTY, N. Y.—On the 13th of June, 1878, while on a fishing trip in the wilderness of New York, my companions and myself were skirting (two on one side and two on the other) a beautiful little pond in Hamilton County, N. Y., which is dignified with the name of "Moose Lake," when one of the party from the opposite side called across to me, "Do you want a bird's nest?" On my expressing surprise at such an unnecessary question, he shouted

back as his excuse, "O, it is nothing but a little brown bird." Such is the deplorable ignorance of the majority of mankind. The little brown bird turned out to be *Melospiza lincolni*.

On arriving on the opposite side of the pond, I found the bird, driven from her nest by my friend, had not returned; we therefore retired a little, and in a few minutes she came back to her treasures and was sacrificed to science. The nest was placed on the ground, where it was almost spongy with water, within about two rods of the pond, and about the same distance from the edge of the forest. It was not under the protection of any bush or stone, but was quite well concealed in some last year's tall grass. It was composed entirely of dried grasses both inside and out, the lining being neatly made of the finer spears, and contained three eggs, a few days advanced in incubation. These measured .74 x .56. The ground was a pale greenish, covered with spots and blotches of different shades of reddish-brown. On one of them the spots were so numerous as to become confluent and almost conceal the ground-color, while on another they were much smaller, so that the greenish-white of the ground-color was the predominant tint, except at the large end, where the spots became larger and more confluent, as indeed they did on all three.

This Moose Lake is a small body of water situated about fifteen miles northeast of Wilmurt P. O., Herkimer County, and must not be confounded with its larger namesakes, which are situated farther north,—Moose in Herkimer County, Big Moose on the line, and North Moose in Hamilton County. The outlets of these three all empty into the Moose River, while that of the one here referred to runs into the West Canada Creek. This I think is farther south than the Lincoln's Finch has been found breeding east of the Great Lakes, and, in fact, is but little north of Racine, which is the southern limit of its breeding, according to Baird, Brewer, and Ridgway's "History of North American Birds." Nor can I, with the limited number of books at my command, find any record of the bird having been taken in this part of the State.—EGBERT BAGG, JR., Utica, N. Y.

OCCURRENCE OF THE WHISTLING SWAN (*Cygnus americanus*) IN MASSACHUSETTS.—During a recent visit to Nantucket I had the pleasure of examining a fine specimen of the Whistling or American Swan in the possession of Mr. H. S. Sweet of that place. Through Mr. Sweet's kindness I am enabled to give the full particulars attending its capture. It was first seen about December 27, 1877, on Sacacha Pond, at the east end of Nantucket, in company with five Canada Geese. The latter were all killed in the course of a few days, but the Swan, though repeatedly fired at, seemed to bear a charmed life, and for a long time evaded all attempts at its capture. Through the succeeding two months it was frequently seen either in Sacacha Pond or Polpis Harbor, between which points it appeared to confine its wanderings. The winter was a very mild one on the island, and it accordingly had little difficulty in obtaining food. It

was finally shot, March 4, 1878, on Cokata Pond, by Mr. F. P. Chadwick, and by him presented to Mr. Sweet. The bird is apparently in nearly perfect plumage, with the otherwise pure white only partially obscured by a plumbeous wash upon the top and sides of the head, and for a short space on the neck behind. Its weight was sixteen pounds. The sex was not ascertained. Although this species is given in many of the local lists as of occasional occurrence during the migrations, there seems to be no previous record of its actual capture in Massachusetts.

At the time of the first settlement of the country, according to various early writers, a Swan — presumably *C. americanus* — was common along the Merrimack River and in some other parts of the State. — WILLIAM BREWSTER, Cambridge, Mass.

CAPTURE OF A FIFTH SPECIMEN OF THE WHITE-THROATED WARBLER (*Helminthophaga leucobronchialis*). — I am indebted to Mr. E. I. Shores for the opportunity of examining a specimen of the White-throated Warbler, which was taken by him at Suffield, Conn., July 3, 1875. It is an adult male in very worn plumage. In every essential particular it agrees well with my type of the species, though exhibiting certain peculiarities of coloration not found in any of the three specimens which I have previously examined. These differences are such as might be expected to occur in a series sufficiently large to present the range of individual variation, and do not tend to establish any closer connection with either of the allied species. The most marked departure from the type is presented by the coloration of the under parts. The entire pectoral region is washed with pale yellow, which extends down along the sides of the abdomen nearly to the tail. This coloring proves upon examination to be a merely superficial tipping to the feathers. In a good series of *H. chrysopatra* before me several specimens occur which are marked in a nearly similar manner, though in none of them does the yellow wash extend so far down upon the sides. With this latter species it seems to be a purely individual phase of coloration, dependent neither upon age nor season. Several young males in newly completed autumnal dress do not show the slightest trace of its presence, while a young female in fall plumage is quite distinctly tinged across the breast. The spring specimens most strongly marked are all apparently very adult birds.

Another point of difference, scarcely to be expected when the unusual amount of yellow beneath is taken in consideration, is found in the restricted area of the yellow marking upon the wing-coverts. In the type specimen the wing-bands are nearly confluent, and present the appearance of a single broad yellow band upon the wing, while in Mr. Shores's specimen they are widely separated. This, however, seems to be mainly due to the imperfect condition of the plumage, whereby the darker bases of many of the greater coverts are exposed. No further differences worthy of note occur, and the salient characters of white cheeks and eyelids, narrow restricted black line through the eye, etc., are all strongly

presented. Mr. Shores's specimen makes the fifth that has already been brought to light, and is the second reported from Connecticut. — WILLIAM BREWSTER, Cambridge, Mass.

NESTING OF THE BANDED THREE-TOED WOODPECKER (*Picoides americanus*) IN NORTHERN NEW YORK.—Since the eggs of this species have never been described, and do not exist, to my knowledge, in the cabinet of any of our ornithologists, it is with no ordinary degree of pleasure that I am enabled to make the following extract from my journal.

“June 4, 1878.—Shortly after crossing Moose River this morning, *en route* for the Fulton chain of lakes, Mr. C. L. Bagg and I were so fortunate as to secure a set of the eggs, with both parent birds, of *Picoides americanus* (old *hirsutus*). We had just crossed the boundary line between Lewis and Herkimer Counties, when Mr. Bagg called my attention to a ‘fresh hole,’ about eight feet from the ground, in a spruce-tree near by. On approaching the tree a yellow crown appeared in the hole, showing us that the nest belonged to one of the Three-toed Woodpeckers, and that the male bird was ‘at home.’ To prevent his escape I jumped toward the tree and introduced three fingers, which were immediately punctured in a manner so distasteful to their proprietor as to necessitate an immediate withdrawal and exchange for the muzzle of my friend’s gun. A handkerchief was next crowded into the hole, but was instantly riddled and driven out by a few blows from his terrible bill. It was then held loosely over the hole, and as the bird emerged I secured and killed him. Through the kindness of a friend my pocket contained one of those happy combinations of knives, saws, and button-hooks,—a sort of tool-chest in miniature,—which one sometimes sees in the shop windows, and is apt to regard with awe rather than admiration, but which constitutes, nevertheless, one of the most useful articles in a naturalist’s outfit. With this instrument we were enabled to saw a block from the face of the nest, and to secure, uninjured, the four nearly fresh eggs which it contained. While wrapping up the eggs the female bird returned, and as she alighted on the side of the tree was killed by Mr. Bagg. The orifice of the hole was about eight feet high and an inch and a half in diameter, and the cavity was about ten inches deep.”

The eggs are cream-white, and of a texture like those of other Woodpeckers. They are strongly ovate in outline (the largest diameter being near the large end), and measure respectively  $23.8 \times 17.2$  mm.,  $23.6 \times 17.8$  mm.,  $23.8 \times 17.9$  mm., and  $23 \times 17.8$  mm.

So far as I am aware this rare Woodpecker is only found along the eastern border of Lewis County, in the Adirondack region, where it is a resident species; and even here it is much less common than its congener, the Black-backed Woodpecker.—C. HART MERRIAM, Locust Grove, Lewis Co., N. Y.

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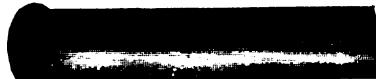
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